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Turkish Society of Sports Traumatology
Arthroscopy and Knee Surgery
TUSYAD

12th TUSYAD CONGRESS 2014

SEPTEMBER 23-27, 2014 • IZMIR KAYA CONVENTION CENTER



FINAL PROGRAM



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BAŞKAN'IN MESAJI

PRESIDENT'S MESSAGE

Değerli Meslektaşlarım,

Düzenleme kurulu olarak iki yıldır sürdürdüğümüz çalışmalardan sonra 12.TUSYAD Kongresi geldi çattı.

Hoş geldiniz!

3.5 gün sürecek kongremizde 3 paralel salonda 64'ü sözlü, 126'si e-poster olmak üzere toplam 190 sunum ilginizi bekliyor olacak. Sunulan çalışmaların özetlerinin OJSM'de (Orthopedic Journal of Sports Medicine) yayımlanacak olması ayrıca artı bir değer olacaktır. Gönderilen her özetin üç hakem tarafından incelendiğini anımsatarak kendilerine katkılarından dolayı teşekkür ederim. 17 farklı ülkeden katılımın olması kongremizi zenginleştirecektir.

Sunumlar dışında 13 kurs, 10 panel, 7 interaktif panel, 2 tartismali oturum ve 35 konferans da bilimsel programda yer almakta. Bu oturumlar bazen tek salonda, bazen üç salonda paralel olarak devam edecektir. Kongrelerimizde ilk kez yer alan ISAKOS, ESSKA, APKASS ve EFOST konferanslarının çok önemli olduğuna katılacaksınız eminim. Çok önemli bir konuyu işleyecek olan AGA Sempozyumu da 8 yıl aradan sonra yine bir İzmir kongresinde yer alacak. MRG, diz eklemine zor yaklaşımlar, çeşitli ameliyatlar sırasında karşılaşılan güçlükleri aşmada ipuçları, tartışmalı konular ve güncel durumları irdelleyen oturumların çok yararlı olacağını düşünmekteyiz. Uluslararası ana derneklerimizin kongrelerinde olduğu gibi ve derneğimizin adından anlaşılacağı üzere TUSYAD kongreleri diz artroplastisinden spor yaralanmalarına, omuz artroskopisinden ayakbileği ve kalça artroskopisine uzanan çok geniş bir yelpazede konuları içermektedir. Yerli ve yabancı değerli eğitimcilerimize teşekkür ederiz.

Öğle yemeğinin ardından yer alacak olan 1 uydu sempozyumu ve 3 atölye çalışmasını çok ilginç ve öğretici bulacağınızı umarım.

Kongrede ödül kazanan eserleri son gün, yani Cumartesi öğlen sade bir şekilde gerçekleşecek olan Kapanış Töreninde açıklayacağız.

Oturumlardan zaman bulduğunuz anlarda ticari firmaların sergilerini ziyaret ederek farklı ve yeni ürünlerle karşılaşabilirsiniz.

Aralarda salonlarda ve sergi alanlarındaki monitörlerde önceki kongrelerimizden elde edebildiğimiz fotoğrafları izleyerek hoş zaman geçirebilirsiniz. Yine aralarda salonlarda çalacak müziğe zaman zaman kulak kabartırsanız özel seçkilere oluşan albümümüzden parçaları dinleyebileceksiniz.

Yorucu bir günün ardından gerçekleşecek olan Açılış Kokteylinde sevdiğiniz arkadaşlarınızla güzel bir ortamda bir araya gelebileceksiniz. İzmir'in değerli müzik topluluğu 21.Peron'un kaliteli müziği de kokteylimize renk katacaktır. Kokteytle bir sürprizimiz var; katılımcılar dünyada ilk kez gerçekleşecek bir olguya tanık olma şansını bulacaklardır.

Günün yorgunluğunu atmak için Kordon'da ve Alsancak'ta, yakında kalmak isteyenler için İnciraltı'nda restoranlar ve cafe-pub'ları ile "Güzel İzmir" sizlere pek çok seçenek sunmaktadır.

TUSYAD Yönetim Kurulu ve Kongre Düzenleme Kurulu adına hepimize başarılı bir kongre diler, katılımcıları saygı ile selamlarım.

Dr. Halit Pınar
TUSYAD 2014 Kongresi Başkanı

BAŞKAN'IN MESAJI

PRESIDENT'S MESSAGE

Dear Colleagues,

After 2 years of efforts, now is the time for the 12th TUSYAD Congress.

Welcome!

In the congress which will last 3,5 days, in 3 parallel halls, a total of 190 presentations, 64 of which are free papers and 126 of which are posters will be waiting for your attention. Having the abstracts of the presentations published in OJSM (Orthopedic Journal of Sports Medicine) will be an added value. Underlining that each abstract was evaluated by 3 referees, I would like to extend my gratitude to the reviewers for their efforts. Having registrations from 17 different countries will enrich our congress.

Besides these presentations, 13 ICLs, 10 panels, 7 interactive panels, 2 debates and 35 lectures will be taking place in the scientific program. While some sessions will be simultaneous, some sessions will be plenary. I believe you will also agree that the ISAKOS, ESSKA, APKASS and EFOST lectures taking place for the first time in a TUSYAD Congress are very important, too. AGA Symposium which will address a very important topic will be taking place in Izmir after 8 years. We believe that sessions on MRI, difficult approaches to the knee joint, tips on overcoming difficulties faced in various procedures, debates and sessions on current updates will be beneficial. As it is like at the congresses of our major international societies and as it is also understood from the name of our society, TUSYAD Congresses hold a wide variety of topics from knee arthroplasty to sports injuries, from shoulder arthroscopy to ankle and hip arthroscopy. Once again we would like to thank a lot to our international and national faculty.

I hope that you will find the satellite symposium and 3 workshops taking place right after the lunch break very interesting.

The award winning papers will be announced during the Closing Ceremony on Saturday.

During the breaks, you can take your time to visit the the exhibition area where you might find new and different products.

You will see pictures from past congresses as a slideshow on the screens located in the exhibition area and also on the screens of the halls. Again if you notice the background music playing in the halls during the breaks, you will be listening to a selection of songs prepared by myself.

You will have a chance to get together with your friends during the Welcome Cocktail. Izmir's valuable musical band "21. Peron" will add spice to the cocktail. We have a surprise during the cocktail at which the participants will witness an event, taking place for the first time in the world.

For those who want to relieve the tiredness of the day, "Beautiful Izmir" Alsancak and Kordon districts offer a wide variety of restaurants, cafes and pubs; while Inciralti can be an option too for those who want to stay close to the congress venue. On behalf of the TUSYAD Board and the Organizing Committee, I wish you a succesful congress.

Best regards,

Prof. Halit Pınar, MD.
TUSYAD 2014 Congress President

KURULLAR COMMITTEES

TUSYAD Yönetim Kurulu / TUSYAD Board

Halit Pınar



**Başkan
President**

İrfan Esenkaya



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Bülent Alparslan



Kongre Düzenleme Kurulu / *Congress Organizing Committee*

Kongre Başkanı / *Congress President*

Halit Pınar



Kongre Sekreteri / *Congress Secretary*

Emin Taşkiran



KURULLAR DEVAMI COMMITTEES CONT'D

Kongre Düzenleme Kurulu Devamı / Congress Organizing Committee Cont'd

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Şükrü Araç



Semih Aydoğdu



Emin Bal



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Hakkı Sur



Hasan Tatari



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Sercan Akpınar

Devrim Akseki

Bülent Aksoy

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Aziz Alturfan

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Mehmet Argın

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Serdar Arıslan

Mehmet Ařık

Ata Can Atalar

Özgür Ahmet Atay

Tolga Atay

Bülent Atilla

Ahmet Turan Aydın

Nuri Aydın

Semih Aydođdu

Kadir Bacakođlu

Emin Bal

Ali Balcı

Gül Baltacı

Asım Baykan

Nilgün Bek

Burak Beksaç

Tahsin Beyzadeođlu

Elcil Kaya Biçer

Mehmet Binnet

Hasan Bombacı

Bora Bostan

Hakan Boya

Özgür Bozan

Murat Bozkurt

Aydın Budeyri

İlker Çetin

Sarper Çetinkaya

Esra Çirci

Cem Çopurođlu

Burak Demirađ

Murat Demirel

Mehmet Demirhan

Mehmet Demirtaş

Mehmet Ali Deveci

Mahmut Nedim Doral

Gürhan Dönmez

Fuat Duygulu

Ahmet Ekin

Özlem El

Hayriye Elbi

Nurzat Elmalı

Müjdat Enginsu

Ersin Erçin

Fahri Erdođan

Mehmet Erduran

Osman Tuđrul Eren

Nevin Ergun

Metin Ergün

İrfan Esenkaya

Nihal Gelecek

Abdullah Göđüş

Uđur Göñç

Selmin Gülbahar

Akif Güleç

Taner Güneř

Nejat Güney

Semih Gür

Uđur Haklar

Onur Hapa

Gazi Huri

Can Hürel

Erdem Iřıkhan

Çetin Iřleđen

Fatih Karaaslan

Mustafa Karahan

Osman Karaođlan

Sinan Karaođlu

Alper Kaya

Defne Kaya

KURULLAR COMMITTEES

Bilimsel Kurul / *Scientific Committee*

Asım Kayaalp	Cengizhan Özgürbüz	Onur Tetik
Murat Kayalar	Uğur Öziç	Mazhar Tokgözoğlu
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Cumhur Cevdet Kesemenli	Mustafa Özkan	Remzi Tözün
Hayrettin Kesmezacar	Hakan Özsoy	Nazan Tuğay
Alper Kılıç	Haluk Hayri Öztekin	Servet Tunay
Önder Kılıçoğlu	Zekeriya Öztemur	Volga Bayrakçı Tunay
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Yavuz Kocabey	Hasan Öztürk	Akın Turgut
Barış Kocaoğlu	İrfan Öztürk	Ahmet Uğur Turhan
Ersin Kuyucu	Nihan Özünlü Pekiyaş	Egemen Turhan
Veli Lök	Halit Pınar	Ali Türk
Mahir Mahiroğulları	Oğuz Poyanlı	Uğur Türkteaş
Mehtap Malkoç	Yaman Sarpel	Ender Ugutmen
Gökhan Meriç	Ahmet Sebik	Burhan Uslu
Sefa Müezzinoğlu	Selman Sökmen	Meriç Ünal
Haldun Orhun	Hakkı Sur	Mehmet Can Ünlü
Ali Öçgüder	Levent Sürer	Mustafa Ürgüden
Tahir Öğüt	Ertuğrul Şener	İbrahim Yanmış
Şebnem Örgüç	Seçkin Şenışık	Mustafa Yel
Selçuk Örsel	Engin Şimşek	Hüseyin Serhat Yercan
Dinç Özaksoy	İsmet Tan	Sevgi Sevi Yeşilyaprak
Mehmet Uğur Özbaydar	Reha Tandoğan	Erhan Yılmaz
Özal Özcan	Ömer Taşer	Hüseyin Yorgancıgil
Zeki Özcan	Dilek Taşkiran	Hayri Baran Yosmaoğlu
Ayşe Özden	Emin Taşkiran	İnci Yüksel
Merter Özenci	Hasan Tatari	Oğuz Yüksel
Hamza Özer	Kürşat Teker	Bülent Zeren

ÖNCEKİ KONGRELER

PAST CONGRESSES

Kongre / Congress: 1991

Başkan / President: Dr. Aziz K. Alturfan

Genel Sekreter / Secretary: Dr. Ömer Taşer

Onursal Başkanlar / Honorary Presidents: Dr. Ejnar Eriksson, Dr. Ridvan Ege

Kongre / Congress: 1994

Başkan / President: Dr. Erdoğan Altınel

Genel Sekreter / Secretary: Dr. Ahmet Turan Aydın

Onursal Başkanlar / Honorary Presidents: Dr. Kenneth E. DeHaven, Dr. Alp Göksan

Kongre / Congress: 1996

Başkan / President: Dr. Ethem Gür

Genel Sekreter / Secretary: Dr. Mahmut Nedim Doral

Onursal Başkanlar / Honorary Presidents: Dr. Talat Göğüş, Dr. Robert W. Jackson, Dr. Zeki Korkusuz ve Dr. Ömer Şarлак

Kongre / Congress: 1998

Başkan / President: Dr. Ahmet Sebik

Genel Sekreter / Secretary: Dr. Levent Köstem

Onursal Başkanlar / Honorary Presidents: Dr. Freddie H. Fu., Dr. Veli Lök

Kongre / Congress: 2000

Başkan / President: Dr. Ömer Taşer

Genel Sekreter / Secretary: Dr. Işık Akgün

Onursal Başkanlar / Honorary Presidents: Dr. John P. Fulkerson, Dr. Aziz K. Alturfan

Kongre / Congress: 2002

Başkan / President: Dr. Ahmet Turan Aydın

Genel Sekreter / Secretary: Dr. Semih Gür

Onursal Başkanlar / Honorary Presidents: Dr. Per Renström, Dr. Erdoğan Altınel

ÖNCEKİ KONGRELER

PAST CONGRESSES

Kongre / Congress: 2004

Başkan / President: Dr. Mahmut Nedim Doral

Genel Sekreter / Secretary: Dr. Reha Tandoğan

Onursal Başkanlar / Honorary Presidents: Dr. J. A. Bergfeld, Dr. T. Koshino, Dr. Ethem Gür

Kongre / Congress: 2006

Başkan / President: Dr. Bülent Alparıslan

Genel Sekreter / Secretary: Dr. Halit Pınar

Onursal Başkanlar / Honorary Presidents: Dr. Philipp Lobenhoffer, Dr. Ahmet Sebik

Kongre / Congress: 2008

Başkan / President: Dr. Işık Akgün

Genel Sekreter / Secretary: Dr. Mehmet Aşık

Onursal Başkanlar / Honorary Presidents: Dr. Christopher D. Harner, Dr. Ömer Taşer

Kongre / Congress: 2010

Başkan / President: Dr. Semih Gür

Genel Sekreter / Secretary: Dr. A. Merter Özenci

Onursal Başkanlar / Honorary Presidents: Dr. Ahmet Turan Aydın, Dr. Masahiro Kurosaka

Kongre / Congress: 2012

Başkan / President: Dr. Reha Tandoğan

Genel Sekreter / Secretary: Dr. Özgür Ahmet Atay

Onursal Başkanlar / Honorary Presidents: Dr. Mahmut Nedim Doral , Dr. Rene Verdonk

ULUSLARARASI KONUŐMACILAR

INTERNATIONAL FACULTY



Roland Becker, Almanya / Germany

Chairman, Dep. of Orthopaedic and Traumatology - GERMANY

Ass. Editor in Chief of KSSTA

Board member of ESSKA

Past President of AGA (German Speaking Association of Arthroscopy and joint Surgery)

Board member of EKA (European knee associates of ESSKA)

Member of the knee committee of ISAKOS



Charles Brown, ABD / USA

Consultant Orthopaedic Surgeon, Abu Dhabi Knee and Sports Medicine Centre, Abu Dhabi, United Arab Emirates

Member of American Academy Orthopaedic Surgeons, American Orthopaedic Society Sports Medicine, ACL Study Group, ISAKOS, ESSKA



David Dejour, Fransa / France

Lyon Ortho Clinic

Clinique de la Sauvegarde, FRANCE

2nd Vice x President of ESSKA



Lars Engebretsen, Norveç / Norway

Division of Orthopaedic Surgery, University of Oslo, NORWAY

Past President of ESSKA



Einar Eriksson, İsveç / Sweden

Professor Emeritus of Sports Medicine at the Karolinska Institute of Stockholm, SWEDEN

Past President of ESSKA, ISSS and Former President of Swedish Society for Sports Medicine, ISEHS.

Past Honorary President of first TUSYAD Congress.

Honorary Member of AOSSM, International Society of Arthroscopy, ISAKOS, American College of Sports Medicine, German Orthopedic Society, Finnish Orthopedic Society.

Doctor Honoris Causa at the University of Tampere in Finland

Member of the AOSSM Hall of fame.

ULUSLARARASI KONUŐMACILAR

INTERNATIONAL FACULTY



John Gliatis, Yunanistan / Greece

University Hospital of Patras, GREECE

Vice President of Greek Orthopaedic Society

President of Greek Hellenic (Greek) Association of Arthroscopy, Knee Surgery and Sports Injuries



Michael Hantes, Yunanistan / Greece

University Hospital of Larissa, YUNANİSTAN

Past President of Greek (Hellenic) Treasurer of ESSKA



Philipp Lobenhoffer, Almanya / Germany

Sportsclinic GERMANY

Chief Orthopaedic Surgeon

Member of AGA, AO Foundation, ESSKA, AAOS, OTA



Philippe Neyret, Fransa / France

Centre Albert Trillât

Hôpital de le Croix-Rousse, FRANCE

1st Vice President of ISAKOS, Chairman of EFORT fellowships



Mitsuo Ochi, Japonya / Japan

Graduate School of Biomedical Sciences,

Hiroshima University, JAPAN

The first president of Japanese Orthopaedic Society of Knee Arthroscopy and Sports Medicine, the first president of Japanese Peripheral Nerve Society and the first president of Asia-Pacific Knee, Arthroscopy and Sports Medicine Society.

ULUSLARARASI KONUŐMACILAR DEVAMI

INTERNATIONAL FACULTY CONT'D



Athanasios V. Papavasiliou Yunanistan / Greece

Aristotle University of Thessaloniki,
St Luke's Hospital Lecturer in Sport Injuries.
Member of ISHA, BOA, EEXOT



Sven Scheffler, Almanya / Germany

Sports Medicine & Orthopaedic Surgery
COPV - Chirurgisch-Orthopädischer PraxisVerbund, GERMANY
Charité, University Medicine Berlin, Department for Traumatology and Orthopaedic
Surgery, Julius-Wolff Institute Berlin



Konsei Shino, Japonya / Japan

Head, Sports Orthopaedics Center, Yukioka Hospital
Professor, Osaka Yukioka College of Health Science
Osaka – JAPAN



Robert Śmigielski, Polonya / Poland

Carolina Medical Center
Head of the Department of Orthopaedic Surgery, Traumatology, and Sports Medicine
ACL - ACL Study Group, Member, ISAKOS, Board of Directors: Member at Large, Arthroscopy
Committee, Membership Committee (Regional Coordinator), Education Committee;
AANA, Member; AAOS, Member; ESSKA, Member; EFOT, 11nd vice President (from 2000
to year 2006)
ICRS, Member; GOTS, Member; RAA, Member; UASTKA, Member; AGA -
Deutschsprachige, Member; PTTS, Co - founder and Vice - President of the Society,
PTOiTr, Member; PTChA, Member PTMS, Member

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UYDU SEMPOZYUMU ve ATÖLYE ÇALIŞMALARI

SATELLITE SYMPOSIUM and WORKSHOPS

Uydu Sempozyumu / Satellite Symposium

Salon 1 / Hall 1	Medicall	
Saat / Time	13:30 - 14:30	
Konu / Topic	Robotik Unikondiler Diz Artroplastisi <i>Robotic Unicondylar Knee Arthroplasty</i>	
Konuşmacı / Speaker	<i>Uğur Haklar</i>	
Tarih / Date	Çarşamba - 24 Eylül 2014 / Wednesday - 24 September 2014	

Atölye Çalışması / Workshop

Salon A - Kat 1 / Hall A - Level 1	Smith & Nephew	
Saat / Time	13:30 - 14:30	
Konu / Topic	Anatomik ÖÇB Rekonstrüksiyonu: Güncel Yaklaşımlar <i>Anatomic ACL Reconstruction: Current Concepts</i>	
Konuşmacı / Speaker	<i>Charles Brown</i>	
Tarih / Date	Perşembe - 25 Eylül 2014 / Thursday - 25 September 2014	

Atölye Çalışması / Workshop

Salon B - Kat 1 / Hall B - Level 1	Medist Group	
Saat / Time	13:30 - 14:30	
Konu / Topic	Hemicap Sınırlı Yüzey Yenileme Artroplastileri <i>Hemicap Resurfacing Arthroplasty</i>	
Konuşmacı / Speaker	<i>Mahmut Nedim Doral</i>	
Tarih / Date	Perşembe - 25 Eylül 2014 / Thursday - 25 September 2014	

Atölye Çalışması / Workshop

Salon B - Kat 1 / Hall B - Level 1	Biomet	
Saat / Hour	13:30 - 14:30	
Konu / Topic	Diz Artroplastisi Uygulamalı Atölye Çalışması <i>Knee Arthroplasty</i>	
Konuşmacı / Speaker	<i>Şükrü Araç</i>	
Tarih / Date	Cuma - 26 Eylül 2014 / Friday - 26 September 2014	

BİLİMSEL PROGRAMA GENEL BAKIŞ

PROGRAM AT A GLANCE



Konferans

İkili Tartışma

Serbest Bildiriler

Uydu Sempozyumu


İnteraktif Panel

Panel

Kurs

Atölye Çalışması

Çarşamba, 24 Eylül 2014

	SALON 1		SALON 2		SALON 3
08:30-08:50	Konferans 1: ÖÇB Rekonstrüksiyonunda 35 Yıllık Mücadelem				
08:50-09:10	Konferans 2: ÖÇB Rekonstrüksiyonunun Başarısını Etkileyen Faktörler				
09:10-10:00	İnteraktif Panel 1: ÖÇB Rekonstrüksiyonu: Tercih Ettiğim Teknik				
10:00-10:30	<i>KAHVE MOLASI</i>				
10:30-11:15	İnteraktif Panel(Kompleks Olgu Tartışması) 2: ÖÇB				
11:15-11:30	Konferans 3: ÖÇB Güçlendirilmesi				
11:30-11:50	Konferans 4: APKASS Konferansı: Kıkırdak Onarımı: Geçmiş, Günümüz ve Gelecek (Alınan Dersler)				
11:50-12:30	AÇILIŞ TÖRENİ				
12:30-13:30	<i>ÖĞLE YEMEĞİ</i>				
13:30-14:30	Uydu Sempozyumu 			13:30-14:30	Akılcı İlaç Oturumu
14:30-15:20	Serbest Bildiriler 1	14:30-15:30	Serbest Bildiriler 2	14:30-15:30	Serbest Bildiriler 3
15:20-15:50	İkili Tartışma 1: Ön Çapraz Bağırsız Yaşam?	15:30-15:50	Konferans 5: Talusta Osteokondral Greft Transferi	15:30-15:50	Konferans 6: Tek veya Çift Sıra Rotator Manşet Onarımında Kanıtlar Ne Diyor?
15:50-16:15	<i>KAHVE MOLASI</i>				
16:15-17:15	İnteraktif Panel (Olgu Temelli) 3: Komplike Vakalarda Primer Total Diz Artroplastisi	16:15-16:35	Konferans 7: Anatomik AÇB Rekonstrüksiyonu: Güncelleme	16:15-17:00	Panel 1: Sporcularda Dirsek İnstabiliteleri
17:15-18:15	Panel 3: Ağrılı Primer Total Diz Artroplastisi: Revizyon İçin Tanı ve Endikasyonlar	16:35-17:50	Panel 2: Rotator Manşet Yırtıklı Hastaları Nasıl Tedavi Edersiniz?	17:00-18:00	KURS 1: Diz Eklemine Önemli Yaklaşımlar
19:00	<i>HOŞGELDİNİZ KOKTEYLİ</i>				

Lecture

Debate

Free Papers

Satellite Symp.


Interactive Panel

Panel

ICL

Workshop

Wednesday, 24 September 2014

Wednesday, 24 September 2014					
	HALL 1		HALL 2		HALL 3
08:30-08:50	Lecture 1: My 35-Year Struggle in ACL Reconstruction				
08:50-09:10	Lecture 2: Factors Affecting the Success of ACL Reconstruction				
09:10-10:00	Interactive Panel 1: ACL Reconstruction: My Preferred Technique				
10:00-10:30	<i>COFFEE BREAK</i>				
10:30-11:15	Interactive Panel 2: Complex Case Discussion: ACL				
11:15-11:30	Lecture 3: ACL Augmentation				
11:30-11:50	Lecture 4: APKASS Lecture: Cartilage Repair: Past, Present and Future (Lessons Learned)				
11:50-12:30	OPENING CEREMONY				
12:30-13:30	<i>LUNCH</i>				
13:30-14:30	Satellite Symposium 			13:30-14:30	Rational Drug Use
14:30-15:20	Free Papers 1	14:30-15:30	Free Papers 2	14:30-15:30	Free Papers 3
15:20-15:50	Debate 1: Life Without ACL?	15:30-15:50	Lecture 5: Osteochondral Graft Transfer for Talar OCL	15:30-15:50	Lecture 6: What Does the Evidence Say on Single or Double Row Rotator Cuff Repair?
15:50-16:15	<i>COFFEE BREAK</i>				
16:15-17:15	Interactive Panel (Case Based) 3: Primary TKA in Complex Cases	16:15-16:35	Lecture 7: Anatomical PCL Reconstruction Updated	16:15-17:00	Panel 1: Elbow Instabilities in Athletes
17:15-18:15	Panel 3: Painful Primary Total Knee Replacement: Diagnosis and Indications for Revision	16:35-17:50	Panel 2: How do you Manage the Patients with Rotator Cuff Tear?	17:00-18:00	ICL 1: Critical Exposures of the Knee
19:00	<i>WELCOME COCKTAIL</i>				

Konferans

İkili Tartışma

Serbest Bildiriler

Uydu Sempozyumu



İnteraktif Panel

Panel

Kurs

Atölye Çalışması

Perşembe, 25 Eylül 2014

	SALON 1		SALON 2		SALON 3
07:30-08:30	Kurs 2: Kıkırdak Onarım Tekniklerinin İlkeleri	07:30-08:30	Kurs 3: Kalça Artroskopisi	07:30-08:30	Kurs 4: Omuz Sorunlarına Yaklaşım: Artroskopiye Yeni Başlayanlar İçin İpuçları
08:40-09:00	Konferans 8: "Efsane"nin Konferansı: Artroskopinin Tarihçesi				
09:00-09:20	Konferans 9: ISAKOS Konferansı: Patellofemoral Eklem Sorunlarının Tedavisine Lyon Ekolünün Katkısı				
09:20-09:40	Konferans 10: ESSKA Konferansı: Menisküs Onarımı: İpuçları, Püf Noktaları ve Uzun Dönem Sonuçları				
09:40-10:00	Konferans 11: EFOST Konferansı: ÖÇB, Diz Ekleminde Eşsiz Bir Ligament Değildir!				
10:00-10:30	<i>KAHVE MOLASI</i>				
10:30-11:30	İnteraktif Panel 4: ÖÇB Revizyonu: Nasıl Yaparım?	10:30-10:45	Konferans 12: Ayak Bileği Instabilitesine Artroskopik Yaklaşım	10:30-10:45	Konferans 13: Eklem Kıkırdağı Yaralanmalarının Sporculara Etkileri
11:30-11:45	Konferans 15: ÖÇB Rekonstrüksiyonu Sonrası 1 Yıl		İnteraktif Panel (Olgu Temelli) 5: "Zor Durumdayım"	10:45-11:00	Konferans 14: Erken Osteoartrit Önlenmesi ve Tedavisi - Tartışmalar ve Bilinmeyenler
11:45-12:15	İkili Tartışma 2: Pediyatrik Olgularda ÖÇB Yaralanmalarına Yaklaşım	10:45-12:30			
12:15-12:30	Konferans 16: Aşil Tendonu Parsiyel Yırtıklarına Cerrahi Yaklaşım			11:00-12:15	Panel 4: Omuz Instabilitesi
12:30-13:30	<i>ÖĞLE YEMEĞİ</i>				
13:30-14:30	Salon A - Kat 1 	13:30-14:30	Salon B - Kat 1 		
14:30-14:50	Konferans 17: Femoro-Asetabüler Sıkışma Kavramı ve Artroskopi, Mini Açık Cerrahi ve Güvenli Dislokasyonun Karşılaştırılması	14:30-14:45	Konferans 18: Kemik İliği Ödemi	14:30-15:10	Panel 5: Diz Çevresi Kırıklar
14:50-15:10	Konferans 20: Kalça Instabilitesi ve Artroskopi Sırasında Kapsüle Yaklaşım	14:45-15:00	Konferans 19: Osteonekroz		
15:10-16:00	Serbest Bildiriler 5	15:00-16:00	Serbest Bildiriler 4	15:10-16:00	Serbest Bildiriler 6
16:00-16:30	<i>KAHVE MOLASI</i>				
16:30-17:30	Panel 6: Eklem Kıkırdağı Onarımı 2014	16:30-17:30	Panel 7: Primer Total Diz Artroplastisinde Artırlar - Eksiler	16:30-17:45	Kurs 5: Diz Eklemine MRG
17:30-18:30	İnteraktif Panel (Kompleks Olgu Tartışması) 6: Kıkırdak Onarımı	17:30-18:30	Panel 8: Menisküs Cerrahisinde Zor Konular	17:45-18:30	TÜBİTAK Ulusal Akademik Ar-Ge Proje Destekleri

Lecture

Debate

Free Papers

Satellite Symp.



Interactive Panel

Panel

ICL

Workshop

Thursday, 25 September 2014

Thursday, 25 September 2014					
	HALL 1		HALL 2		HALL 3
07:30-08:30	ICL2: Principles of Cartilage Repair Techniques	07:30-08:30	ICL 3: Hip Arthroscopy	07:30-08:40	ICL 4: Approach to Shoulder Disorders: Tips for the Beginners to Arthroscopy
08:40-09:00	Lecture 8: Legend's Lecture: History of Arthroscopy				
09:00-09:20	Lecture 9: ISAKOS Lecture: Contribution of the Lyon School to the Management of Patello-Femoral Joint				
09:20-09:40	Lecture 10: ESSKA Lecture: Meniscal Repair: Tips, Tricks and Long Term Results				
09:40-10:00	Lecture 11: EFOST Lecture: ACL is not a Unique Ligament in the Knee Joint!				
10:00-10:30	<i>COFFEE BREAK</i>				
10:30-11:30	Interactive Panel 4: Revision ACL: How I do?	10:30-10:45	Lecture 12: Arthroscopic Approach to Ankle Instability	10:30-10:45	Lecture 13: The Impact of Articular Cartilage Injuries in Athletes
11:30-11:45	Lecture 14: One Year After ACL Reconstruction			10:45-11:00	Lecture 15: Prevention and Management of Early Osteoarthritis- Challenges and Unknowns
11:45-12:15	Debate 2: Approach to ACL Injuries in Pediatric Patients	10:45-12:15	Interactive Panel (Case Based) 5: "I am in Trouble"	11:00-12:15	Panel 4: Shoulder Instability
12:15-12:30	Lecture 16: Surgical Approach to Partial Achilles Tendon Ruptures				
12:30-13:30	<i>LUNCH</i>			12:15-13:30	<i>LUNCH</i>
13:30-14:30	Hall A - Level 1 	13:30-14:30	Hall B - Level 1 	13:30-14:30	
14:30-14:50	Lecture 17: Concept of Femoro-Acetabular Impingement and Comparison of Arthroscopy, Mini Open Surgery and Safe Dislocation	14:30-14:45	Lecture 18: Bone Marrow Edema	14:30-15:10	Panel 5: Fractures Around the Knee
14:50-15:10	Lecture 20: Hip Instability and the Management of the Capsule During Hip Arthroscopy	14:45-15:00	Lecture 19: Osteonecrosis		
15:10-16:00	Free Papers 5	15:00-16:00	Free Papers 4	15:10-16:00	Free Papers 6
16:00-16:30	<i>COFFEE BREAK</i>				
16:30-17:30	Panel 6: Articular Cartilage Repair in 2014	16:30-17:30	Panel 7: Pearls and Pitfalls in Primary TKA	16:30-17:45	ICL 5: MRI of the Knee Joint
17:30-18:30	Interactive Panel Complex Case Discussion 6: Cartilage Repair	17:30-18:30	Panel 8: Tough Issues in Meniscal Surgery	17:45-18:30	TÜBİTAK National Academic R&D Grants

Konferans

İkili Tartışma

Serbest Bildiriler

Uydu Sempozyumu

İnteraktif Panel

Panel

Kurs

Atölye Çalışması

Cuma, 26 Eylül 2014

Cuma, 26 Eylül 2014					
	SALON 1		SALON 2		SALON 3
07:30-08:40	Kurs 6: Patellofemoral Instabilite	07:30-08:40	Kurs 7: Adım Adım Menisküs Transplantasyonu	08:00-09:00	Kurs 8: Spor Ayakkabıları ve Ayak Ortezleri İçin Klinik Karar Verme- Ayağın Değerlendirilmesi
08:45-09:00	Konferans 22: TZP: Temel Bilimler Işığında Klinik Uygulamalar	08:45-09:45	Panel 9: Sporcularda Ayak Bileği Sorunları	09:00-09:20	Konferans 21: Saha Kenarından Bakmak ya da Görmek
09:00-09:15	Konferans 23: ÖÇB Yaralanmalarının Önlenmesi			09:20-09:50	Panel 10: ÖÇB Yaralanmalarında Risk Faktörleri
09:15-09:30	Konferans 24: Akut Patella Çıkığı			09:50-10:15	Konferans 25: Sporcunun Performans Profili, Fizyolojik Eşiği ve Yaralanmaya Eğilimi
09:30-10:30	Panel 11: AGA Paneli: Orta Yaşta Artrozlu Diz			10:15-10:30	Konferans 26: ÖÇB Rekonstrüksiyonu Sonrası Proprioseptif Eğitim (TUSYAD Propriosepsiyon Kurulu)
10:30-11:00	KAHVE MOLASI				
11:00-12:15	İnteraktif Panel (Kompleks Olgu Tartışması) 7: AGA: Orta Yaşta Artrozlu Diz			11:00-12:15	Kurs 9: Sporcudaki Kasık Ağrısına Multidisipliner Yaklaşım
12:15-13:30	ÖĞLE YEMEĞİ			12:15-13:15	ÖĞLE YEMEĞİ
13:30-14:30		13:30-14:30	Salon B - Kat 1 BIOMET	13:15-14:30	Kurs 10: Kinesio Bantlama
14:30-14:50	Konferans 27: Patello-Femoral Artrit Tedavisi	14:30-14:50	Konferans 28: Arka Ayak Artroskopisi	14:30-16:00	Serbest Bildiriler 7
14:50-15:10	Konferans 29: Diz Çıkığı Tedavisi: Acil Servisten Son Tedaviye	14:50-16:00	Serbest Bildiriler 8		
15:10-16:00	Serbest Bildiriler 9				
16:00-16:30	KAHVE MOLASI				
16:30-17:00	Konferans 30: Diz Sorunlarında Femoral Osteotomiler Üzerine Yeni Gelişmeler	16:30-17:30	Panel 12: Sporcunun Kabusu	16:30-16:50	Konferans 31: Skapulere Diskinezi ve Tedavisi
17:00-18:00	Panel 13: Dizde Çoklu Bağ Yaralanmaları	17:30-18:30	Panel 15: Yurtdışına Nasıl Gittim? Neler Gördüm? Bundan Sonra...	16:50-17:50	Panel 14: Hayat Boyu Spor

Lecture

Debate

Free Papers

Satellite Symp.

Interactive Panel

Panel

ICL

Workshop

Friday, 26 September 2014

HALL 1		HALL 2		HALL 3	
07:30-08:40	ICL 6: Patellofemoral Instability	07:30-08:40	ICL 7: Step by Step Meniscal Transplantation	08:00-09:00	ICL 8: Decision Making for Sport Shoes and Foot Orthosis-Evaluation of the Foot
08:45-09:00	Lecture 22: PRP: A Clinical Perspective with some Basic Science	08:45-09:45	Panel 9: Ankle Problems in Athletes	09:00-09:20	Lecture 21: To look or see on the sidelines
09:00-09:15	Lecture 23: Prevention of ACL Injuries			09:20-09:50	Panel 10: Risk Factors in ACL Injuries
09:15-09:30	Lecture 24: Acute Patellar Dislocation			09:50-10:15	Lecture 25: Performance Profile, Physiologic Threshold and Tendency of the Athlete to Injury
09:30-10:30	Panel 11: AGA Symposium: Middle Aged Arthritic Knee			10:15-10:30	Lecture 26: Proprioceptive Training after ACL Reconstruction (TUSIAD Proprioception Committee)
10:30-11:00	<i>COFFEE BREAK</i>				
11:00-12:15	Interactive Panel (Complex Case Discussion) 7: AGA: Middle Aged Arthritic Knee			11:00-12:15	ICL 9: Multidisciplinary Approach to Groin Pain in Athletes
12:15-13:30	<i>LUNCH</i>			12:15-13:15	<i>LUNCH</i>
13:30-14:30		13:30-14:30	Hall B - Level 1 BIOMET	13:15-14:30	ICL 10: Kinesiotaping
14:30-14:50	Lecture 27: Patello-Femoral Arthritis: The Key for Treatment	14:30-14:50	Lecture 28: Hindfoot Arthroscopy	14:30-16:00	Free Papers 7
14:50-15:10	Lecture 29: Management of Knee Dislocation: From the Emergency Department to Final Treatment	14:50-16:00	Free Papers 8		
15:10-16:00	Free Papers 9				
16:00-16:30	<i>COFFEE BREAK</i>				
16:30-17:00	Lecture 30: New Developments in Femoral Osteotomy for Knee Disorders	16:30-17:30	Panel 12: Nightmare of the Athlete	16:30-16:50	Lecture 31: Scapular Dyskinesia and its Treatment
17:00-18:00	Panel 13: Multiligament Injuries of the Knee	17:30-18:30	Panel 15: How I Went Abroad? What did I See? Then...	16:50-17:50	Panel 14: Life-Time Sports

Konferans

İkili Tartışma

Serbest Bildiriler

Uydu Sempozyumu

İnteraktif Panel

Panel

Kurs

Atölye Çalışması

Cumartesi, 27 Eylül 2014

SALON 1			SALON 2			SALON 3
07:30-09:00	Kurs 11: ÖÇB Rekonstrüksiyonunun Temel İlkeleri: Güncelleme	07:30-08:45	Kurs12: Ünikompartmantal Diz Artroplastisi			
09:00-09:30	Konferans 32: Diz Çevresi Kötü Kaynamalarının Tedavisi	09:00-09:30	Dejeneratif Dizde Non - Biyolojik Cerrahi Alternatifler			
09:30-10:00	Konferans 35: Diz Osteoartritiinde Osteotomi, Ünikompartmantal ve Total Diz Artroplastisinin Endikasyonları		Konferans 33: Parsiyel Diz Artroplastisinde Robotik Cerrahi			
10:00-10:30	KAHVE MOLASI					
10:30-11:45	Panel 16: Revizyon Diz Artroplastisinde Pratik Çözümler	10:30-11:45	Kurs 13: Diz Çevresi Osteotomiler			
11:45-12:30	ÖDÜL TÖRENİ ve KAPANIŞ					

Lecture

Debate

Free Papers

Satellite Symp.

Interactive Panel

Panel

ICL

Workshop

Saturday, 27 September 2014

	HALL 1		HALL 2		HALL 3
07:30-09:00	ICL11: Basic Principles of ACL Reconstruction: Update	07:30-08.45	ICL 12: Unicompartmental Knee Arthroplasty		
09:00-09:30	Lecture 32: Treatment of Malunions Around the Knee	09:00-09:30	Non-Biologic Surgical Alternatives in Degenerative Knee Lecture 33: Robotic Surgery in Partial Knee Arthroplasty Lecture 34: Resurfacing Arthroplasty		
09:30-10:00	Lecture 35: Indications for Osteotomy, Unicompartmental Knee and Total Knee Replacement in Knee Osteoarthritis				
10:00-10:30	<i>COFFEE BREAK</i>				
10:30-11:45	Panel16: Practical Approach to Revision Total Knee Arthroplasty	10:30-11:45	ICL 13: Osteotomies Around the Knee		
11:45-12:30	ADJOURN and AWARD CEREMONY				



Türkiye Spor Yaralanmaları
Artroskopisi ve Diz Cerrahisi Derneği
TUSYAD

12. TUSYAD KONGRESİ 2014
23-27 EYLÜL 2014 • İZMİR KAYA KONGRE MERKEZİ

BİLİMSEL PROGRAM

SCIENTIFIC PROGRAM



Bilimsel Program

ÇARŞAMBA, 24 EYLÜL 2014

SALON 1

- 08:30-08:50** **KONFERANS 1: ÖÇB Rekonstrüksiyonunda 35 Yıllık Mücadelem** *Konsei Shino*
Oturum Başkanı: *Mahmut Nedim Doral*
- 08:50-09:10** **KONFERANS 2: ÖÇB Rekonstrüksiyonunun Başarısını Etkileyen Faktörler** *Philippe Neyret*
Oturum Başkanı: *Mahmut Nedim Doral*
- 09:10-10:00** **İTERAKTİF PANEL 1: ÖÇB Rekonstrüksiyonu: Tercih Ettiğim Teknik**
Oturum Başkanı: *Mehmet Binnet*
Konsei Shino, Sinan Karaoğlu, Philippe Neyret, Charles Brown
- 10:00-10:30** **KAHVE MOLASI**
- 10:30-11:15** **İTERAKTİF PANEL 2: ÖÇB (Kompleks Olgu Tartışması)**
Oturum Başkanı: *Charles Brown*
Mitsuo Ochi, Ömer Taşer, Philippe Neyret, Merter Özenci
- 11:15-11:30** **KONFERANS 3: ÖÇB Güçlendirilmesi** *Mitsuo Ochi*
Oturum Başkanı: *Bülent Alparıslan*
- 11:30-11:50** **KONFERANS 4: APKASS Konferansı: Kıkırdak Onarımı: Geçmiş, Günümüz ve Gelecek (Alınan Dersler)** *Mitsuo Ochi*
Oturum Başkanı: *Bülent Alparıslan*
- 11:50-12:30** **AÇILIŞ TÖRENİ**
- 12:30-13:30** **ÖĞLE YEMEĞİ**
- 13:30-14:30** **UYDU SEMPOZYUMU**  **bk. 20. sayfa**
- 14:30-15:20** **SERBEST BİLDİRİLER 1**
Oturum Başkanları: *Merter Özenci, Tolga Atay*
- S01** Keçi Dizlerinde Orta Kısım Defekt Tip Kısmi Ön Çapraz Bağ Yaralanma Modeli: İnfrapatellar Yağ Yastığının Alınmasının Etkisi
Bekir Karakılıç, *Emin Taşkıran, Başak Doğanavşargil, Salih Çelik*
- S02** Ön Çapraz Bağ Rekonstrüksiyonunda Transportal Femoral Cross-Pin Tespitinin Erken Dönem Sonuçlarının Değerlendirilmesi
Sinan Zehir, *Ercan Şahin, Murat Çalbıyık, Mahmut Kalem, Deniz İpek, Murat Songür*
- S03** Ön Çapraz Bağ Yırtıklarına Eşlik Eden Menisküs Yırtıklarının Görülme Sıklığı: Daha Erken ÖÇB Rekonstrüksiyonu Daha Az Menisküs Yırtığı
Hasan Tatari, *Vugar Guliyev*
- S04** Profesyonel Sporcu Olmayan Trans-Tibial ve Anatomik Teknikle ÖÇB Rekonstrüksiyonu Yapılan Hastalarda Radyolojik ve Klinik Değerlendirme
Zeki Taşdemir, *Safiye Tokgöz Özal, Nurzat Elmalı, Fevzi Sağlam*

S05 Anatomik Ön Çapraz Bağ Rekonstrüksiyonu Standart İki Girişle Yapılabilir mi?

*Cem Coşkun Avcı, **Hüseyin Koca**, Necdet Sağlam, Tuhan Kurtulmuş, Gürsel Saka*

S06 Tek Bant Ön Çapraz Bağ Rekonstrüksiyonu Sonrası Kontrastlı MR Çekimleri ile Greft Kanlanması Değerlendirilmesi

***Bülent Bektaşer**, Özgür Tosun, Nadir Yalçın, Nurdan Çay, Kasım Kılıçarslan*

15:20-15:50

İKİLİ TARTIŞMA 1: Ön Çapraz Bağsız Yaşam?

Elif Akalın, Hasan Tatari

Oturum Başkanı: *Osman Karaoğlan*

15:50-16:15

KAHVE MOLASI

16:15-17:15

İNERAKTİF PANEL 3: Komplike Vakalarda Primer Total Diz Artroplastisi (Olgu Temelli)

Oturum Başkanı: *Şükrü Araç*

Genu Valgum

Fahri Erdoğan

Sert Diz

Nejat Güney

Genu Rekurvatum

Bülent Atilla

Ekstraartiküler Deformite

Remzi Tözün

17:15-18:15

PANEL 3: Ağırlı Primer Total Diz Artroplastisi: Revizyon İçin Tanı ve Endikasyonlar

Oturum Başkanları: *Hakkı Sur, Hüseyin Yorgancıgil*

İnfeksiyon

Kaya Akan

İnstabilite

Semih Aydoğdu

Patellofemoral Sorunlar

Zeki Özcan

Sert Diz

Yaman Sarpel

19:00

HOŞGELDİNİZ KOKTEYLİ

SALON 2

14:30-15:30

SERBEST BİLDİRİLER 2

Oturum Başkanları: *İrfan Esenkaya, Cemil Kayalı*

S07 Aşıl Tendon Ruptürlerinin Tedavisinde Otolog Trombositten Zengin Plazmanın Etkisi: Tavşanlarda Bir Deneysel Çalışma?

***Baran Sen**, Serkan Güler, Berivan Çeçen, Erdem Kumtepe, Alper Bağrıyanık, Sermin Özkal, M. Ali Özcan, Hayri Özsan, Namık Şanlı, Hasan Tatari*

S08 Tendon Yaralanmaları İçin Bir Doku Mühendisliği Çözümü: Poss-Nanokompozit Gereç

***Günay Verdiyeva**, Haroon A. Mann, Alexander M. Seifalian*

S09 Tekrarlayan Öne Omuz Çıkığında Dügümsüz Çapalarla Yapılan Artroskopik Bankart Onarımı Sonrası Erken ve Geç Rehabilitasyon Sonuçlarının Karşılaştırılması

***Harun Kütahya**, Mustafa Yel, Onur Bilge, Ali Güleç, Burcak Kutluhan Kaçıra, Serdar Toker*

S10 Artroskopik Latarjet: Öğrenme Eğrisi ve Erken Dönem Sonuçları

***Kerem Bilsel**, Gökçer Uzer, Mehmet Elmadağ, Fatih Yıldız, Jotyar Ali, İbrahim Tuncay*

S11 Akut Akromiyoklavikuler Eklem Dislokasyonunda Artroskopik Tedavi Sonuçları

***Kerem Bilsel**, Mehmet Elmadağ, Gökçer Uzer, Fatih Yıldız, Ahmet Can Erdem, İbrahim Tuncay*

S12 Kronik Lateral Epikondilit Tedavisinde Otolog Conditioned Serum-Acs (Orthokine) Uygulamasının Erken Dönem Sonuçları

***Deniz İpek**, Murat Çalbıyık, Sinan Zehir*

S13 Kemik Greftiyle Dinamik Skafo-Lunat İnstabilitenin Stabilizasyonu-Artroskopik Teknik

Igor Cizmar

15:30-15:50 **KONFERANS 5: Talusta Osteokondral Greft Transferi** *Ömer Taşer*
Oturum Başkanı: *Uğur Özç*

15:50-16:15 **KAHVE MOLASI**

16:15-16:35 **KONFERANS 7: Anatomik AÇB Rekonstrüksiyonu: Güncelleme** *Konsei Shino*
Oturum Başkanı: *İlhan Özkan*

16:35-17:50 **PANEL 2: Rotator Manşet Yırtıklı Hastaları Nasıl Tedavi Edersiniz?**
Oturum Başkanları: *Mehmet Demirhan, Haldun Orhun*

Rotator Manşet Onarımı İçin Hangi Hastalar En Uygun Adaydır? *Mehmet Uğur Özbaydar*

Rotator Manşet Yırtıklarında Konservatif Tedavi
(Ne Zaman Ortopediste Gönderirim?) *Özlem El*

Daha İyi Rotator Manşet İyileşmesi İçin Biyolojik Faktörler:
TZP'ye İhtiyacımız Var mı? *Mustafa Özkan*

Onarılamayan Rotator Manşet Yırtığı:
Bir Sonraki Seçenek Nedir? *Hayrettin Kesmezacar*

Rotator Manşet Onarımında Akromioplastinin Yeri Nedir? *Mehmet Demirhan*

SALON 3

13:30-14:30 **Akılcı İlaç Oturumu** *Cemil Kayalı*
Oturum Başkanı: *Reha Akdal*

14:30-15:30 **SERBEST BİLDİRİLER 3**
Oturum Başkanları: *Alper Kılıç, Zeki Özcan*

S14 Hayvan Modelinde Kemik-Tendon İyileşmesinin Arttırılması İçin Mezenkimal Kök Hücre ve Kemik İliği Tedavilerinin Karşılaştırılması
Erdem Aktas, *Jun Lu, Connie Chamberlain, Erin Saether, Jae Sung Lee, Ray Vanderby*

S15 Volar Turndown Tendon Flebi ile Güçlendirilmiş ve Posterior Bacak Fasyotomisi Uygulanmış Açık Aşıl Tendon Onarımı
Hamza Özer, *Hakan Selek, Gülcan Harput, Ali Öznur, Gül Baltacı*

S16 İlave Dıştan Mekanik Baskının, Artroskopik Eksternal Kapsüler Gevşetme Sonrası Hemartroza Etkileri
*Onur Bilge, ***Mustafa Yel***, Mahmut Nedim Doral*

S17 Radyoaktif Sinovektomi Sonrası Hasta Memnuniyeti
Elcil Kaya Biçer, *Semih Aydoğdu, Hakkı Sur*

S18 Hemofilik Artropatide Patellofemoral Eklemdeki Radyolojik Değişiklikler
Elcil Kaya Biçer, *Kemal Kayaokay, Semih Aydoğdu, Kaan Kavaklı, Can Balkan, Hakkı Sur*

S19 Bir Diz Artroskopistinin 15 Yıllık Deneyimi: Tanısaldan Rekonstrüksiyon Cerrahisine
Hasan Tatarı, *Yunus Emre Bektaş, Demirhan Demirkıran, Hülya Ellidokuz*

S20 Artroskopi Destekli Redüksiyon ve Osteosentez Yapılan Tibia Plato Kırıklarının Sonuçlarının Retrospektif Değerlendirilmesi ve Artroskopinin Tibia Plato Kırıklarındaki Rolü
*Hasan Öztürk, ***Mahmut Tuzlu***, Ahmet Savran, Bayram Köse*

15:30-15:50 **KONFERANS 6: Tek veya Çift Sıra Rotator Manşet Onarımında Kanıtlar Ne Diyor?** *Sercan Akpınar*
Oturum Başkanı: *Ahmet Ekin*

15:50-16:15

KAHVE MOLASI

16:15-17:00

PANEL 1: Sporcularda Dirsek İnstabiliteleeri

Oturum Başkanları: *Yalçın Ademođlu, Kadir Bacakođlu*

Medial İnstabilite

Mehmet Demirtaş

Lateral İnstabilite

Kadir Bacakođlu

Kompleks İnstabilite

Murat Kayalar

17:00-18:00

KURS 1: Diz Eklemine Önemli Yaklaşımlar

Oturum Başkanları: *Hüseyin Yercan, Cem Çopurođlu*

Posteromedial

Charles Brown

Posterolateral

Hakan Özsoy

Posterior

Hüseyin Serhat Yercan

SALON 1

07:30-08:30

KURS 2: Kıkırdak Onarım Tekniklerinin İlkeleri

Oturum Başkanları: *Nurzat Elmalı, Tahsin Beyzadeođlu*

Genel İlkeler ve Algoritma

Murat Demirel

< 2,5 cm² Lezyonların Onarımı

Nurzat Elmalı

2,5-4 cm² Arası Lezyonların Onarımı

Özgür Ahmet Atay

> 4 cm² Lezyonların Onarımı

Tahsin Beyzadeođlu

08:40-09:00

KONFERANS 8: "Efsane"nin Konferansı: Artroskopinin Tarihçesi

Ejnar Eriksson

Oturum Başkanı: *Veli Lök*

09:00-09:20

**KONFERANS 9: ISAKOS Konferansı:
Patellofemoral Eklem Sorunlarının Tedavisine Lyon Ekolünün Katkısı**

Philippe Neyret

Oturum Başkanları: *Halit Pınar, Esra Çirci*

09:20-09:40

**KONFERANS 10: ESSKA Konferansı: Menisküs Onarımı:
İpuçları, Püf Noktaları ve Uzun Dönem Sonuçları**

Michael Hantes

Oturum Başkanları: *Halit Pınar, Esra Çirci*

09:40-10:00

**KONFERANS 11: EFOST Konferansı: ÖÇB,
Diz Eklemine Eşsiz Bir Ligament Deđildir!**

Mahmut Nedim Doral

Oturum Başkanları: *Halit Pınar, Esra Çirci*

10:00-10:30

KAHVE MOLASI

10:30-11:30

İTERAKTİF PANEL 4: ÖÇB Revizyonu: Nasıl Yaparım?

Oturum Başkanları: *Charles Brown, Mustafa Karahan*

Philippe Neyret, Ömer Taşer, Konsei Shino, Asım Kayaalp

11:30-11:45

KONFERANS 15: ÖÇB Rekonstrüksiyonu Sonrası 1 Yıl

Lars Engebretsen

Oturum Başkanı: *Mustafa Karahan*

11:45-12:15

İKİLİ TARTIŞMA 2: Pediatrik Olgularda ÖÇB Yaralanmalarına Yaklaşım

Oturum Başkanı: *Sinan Karaođlu*

Konservatif

Lars Engebretsen

Cerrahi

Reha Tandođan

12:15-12:30

**KONFERANS 16: Aşil Tendonu Parsiyel
Yırtıklarına Cerrahi Yaklaşım**

Robert Smigielski

Oturum Başkanı: *Sinan Karaođlu*

12:30-13:30

ÖĞLE YEMEĐİ

13:30-14:30

ATÖLYE ÇALIŞMASI



Salon A - Kat 1

14:30-14:50

**KONFERANS 17: Femoro - Asetabuler Sıkışma
Kavramı ve Artroskopi, Mini Açık Cerrahi ve
Güvenli Dislokasyonun Karşılaştırılması**

Athanasios V. Papavasiliou

Oturum Başkanı: *Mehmet Aşık*

14:50-15:10

KONFERANS 20: Kalça İnstabilitesi ve Artroskopik Sırasında Kapsüle Yaklaşım

Athanasios V. Papavasiliou

Oturum Başkanı: *Mehmet Aşık*

15:10-16:00

SERBEST BİLDİRİLER 5

Oturum Başkanları: *Mehmet Altun, Mehmet Akif Altay*

S28 Artroskopik Ön Çapraz Bağ Cerrahisinde Femoral Tünelin Tavanarası

Ahmet Fırat, *Mehmet Faruk Çatma, Bırol Tunç, Çiğdem Hacıhafızoğlu, Murat Altay, Murat Bozkurt, Mehmet İsmail Safa Kapıcıoğlu, Osman Tecimel*

S29 Aşil Tendon Allogrefti ile Ön Çapraz Bağ Rekonstrüksiyonu: İki Farklı Femoral Tespit Yöntemi Sonrası Tünel Genişlemesinin Karşılaştırılması

Musa Uğur Mermerkaya, *Ahmet Özgür Atay, Şenol Bekmez, Fatih Karaaslan, Erkan Alkan, Mahmut Nedim Doral*

S30 Tek Taraflı Anteromedial Portal veya Transtibial Yöntemle Artroskopik Ön Çapraz Bağ Rekonstrüksiyonu Yapılan Hastaların MRG Tetkiki İle Ölçülen Greft Değerlerinin Karşı Normal Dizlerle Karşılaştırılması Tibial Tünel mi, Greft Yerleşimi mi?

Olca Güler, *Mahir Mahiroğulları, Serhat Mutlu, Mehmet Halis Çerci, Ali Şeker, Selami Çakmak*

S31 Hamstring Tendon Grefti Alınması Sırasında Safen Sinirinin İnfrapatellar Dalının Yaralanması: İki Farklı Kesinin Karşılaştırılması

Serkan Sipahioğlu, *Sinan Zehir, İslam Baykara, Ali Bilge*

S32 Ön Çapraz Bağ Rekonstrüksiyonu Sonrası Eklemiçi Kanamanın Azaltılması: Damarıçi ve Eklemiçi Birlikte Tranekzamik Asid Uygulanması

Fatih Karaaslan, *Sinan Karaoğlu, Musa Uğur Mermerkaya*

S33 Ön Çapraz Bağ Rekonstrüksiyonu Sonrası Futbola Dönüş

Emmanuel Papacostas, *Efthymios Papasoulis, Kostas Epaminontidis, Ioannis Terzidis, Aristotelis Sideridis*

16:00-16:30

KAHVE MOLASI

16:30-17:30

PANEL 6: Eklem Kıkırdığı Onarımı 2014

Oturum Başkanları: *Işık Akgün, Umut Akgün*

Laboratuarda Neler Oluyor?

Dilek Taşkıran

Hücre Temelli Kıkırdak Onarımı

Mehmet Binnet

Mikrokırık Güçlendirmesi

Mahmut Nedim Doral

Mezenkimal Kök Hücre Uygulamaları

Mehmet Can Ünlü

Fokal Kıkırdak Defektleri: Kanıta Dayalı Yaklaşım

Lars Engebretsen

17:30-18:30

İTERAKTİF PANEL 6: Kıkırdak Onarımı (Kompleks Olgu Tartışması)

Oturum Başkanı: *Reha Tandoğan*

Işık Akgün, Mehmet Aşık, Tahsin Beyzadeoğlu, Lars Engebretsen

SALON 2

07:30-08:30

KURS 3: Kalça Artroskopisi

Oturum Başkanları: *Asım Kayaalp, Onur Hapa*

Endikasyonlar ve Tanı

Onur Hapa

Hazırlık, Portaller ve Artroskopik Anatomi

Sarper Çetinkaya

İntraartiküler İşlemler

Asım Kayaalp

Ekstraartiküler İşlemler

Athanasios V. Papavasiliou

Komplikasyonlar ve Korunma

Mehmet Aşık

10:00-10:30

KAHVE MOLASI

10:30-10:45

KONFERANS 12: Ayak Bileği İnstabilitesine Artroskopik Yaklaşım

Robert Smigielski

Oturum Başkanı: *İlhan Özkan*

10:45-12:30

İTERAKTİF PANEL 5: “Zor Durumdayım” (Olgu Temelli)

Oturum Başkanları: *Bülent Alparslan, İlhan Özkan*

Müjdat Enginsu, Umut Akgün, Hasan Tatari, Ender Ugutmen, Asım Kayaalp, Alper Kaya, Osman Tuğrul Eren, Hakan Özsoy, Hüseyin Serhat Yercan

12:30-13:30

ÖĞLE YEMEĞİ

13:30-14:30

ATÖLYE ÇALIŞMASI



Salon B - Kat 1 bk. 20. sayfa

14:30-14:45

KONFERANS 18: Kemik İliği Ödemi

Cumhur Cevdet Kesemenli

Oturum Başkanı: *İsmet Tan*

14:45-15:00

KONFERANS 19: Osteonekroz

Işık Akgün

Oturum Başkanı: *İsmet Tan*

15:00-16:00

SERBEST BİLDİRİLER 4

Oturum Başkanları: *Uğur Haklar, Ersin Erçin*

S21 Medial Menisküs Subluksasyonu Sonrası Diz Ekleminde Ortaya Çıkan Yüklenmelerdeki Değişimler: Sonlu Elemanlar Analiz Çalışması

Kemal Gökkuş, Halil Atmaca, Levent Uğur, Arif Özkan, Ahmet Turan Aydın

S22 Ön Çapraz Bağ Ruptürü Sonrası Dizin Bölgesel Kemik Dansitesinin Bilgisayarlı Tomografi İle Ölçümü

Ali Balcı, Naciye Sinem Gezer, Hasan Tatari, Mehmet Erduran, Behzad Saleky, Erol Kaya, Dinç Özaksoy

S23 Hiper mobil Medial Menisküsün Onarım Sonuçları

Serdar Söylev, Halit Pınar

S24 Menisküs Tamiri Sonrası Klinik Sonuçlar ve MR Bulguları Ne Kadar Tutarlıdır?

Hasan Bombacı, Fatih Çetinkaya, Kaan Meriç

S25 Menisküs Yırtıklarında Artroskopik Tamir Sonuçlarımız

Murat Aşçı, Mehmet Burtaç Eren, Erkal Bilgiç, Taner Güneş, Bora Bostan

S26 Üst Düzey Sporcularda Tamamı İçerde Tekniğiyle Yapılan Menisküs Tamirlerinde Başarısızlıkla İlişkili Faktörler

*Ioannis Terzidis, **Aristotelis Sideridis**, Mattheos Savvidis, Nikolaos Koukoulis, Efthymios Papasoulis, Emmanuel Papacostas*

S27 En Az Altı Ay Takipli Ardışık 288 Hastada Kalça Artroskopisi Endikasyonları ve Sonuçları
Athanasios V Papavasiliou, Nikolaos Koukoulis, Christos Sinopidis

16:00-16:30

KAHVE MOLASI

16:30-17:30

PANEL 7: Primer Total Diz Artroplastisinde Artırlar-Eksiler

Oturum Başkanları: *Mümtaz Alpaslan, Fuat Duygulu*

Sabit veya Hareketli İnsert

Servet Tunay

AÇB'ı Koruyalım / Keselim

Mazhar Tokgözoğlu

Ne Zaman Ne Kadar Kısıtlamalı

Özal Özcan

Patellar Komponent ve Alternatifleri

Hakkı Sur

17:30-18:30

PANEL 8: Menisküs Cerrahisinde Zor Konular

Oturum Başkanları: *Aziz Alturfan, Yavuz Kocabey*

Menisküs Onarımında Genişletilmiş Endikasyonlar

Yavuz Kocabey

Kök Yırtığı Onarımı

Emin Taşkiran

Meniskal Skafold ve İmplantlar

Philippe Neyret

Menisküs Transplantasyonu

Öğür Haklar

SALON 3

07:30-08:30

KURS 4: Omuz Sorunlarına Yaklaşım: Artroskopiye Yeni Başlayanlar İçin İpuçları

Oturum Başkanları: *Mahir Mahiroğulları, Burak Öztürk*

Öykü, Klinik Değerlendirme ve Testler

Barış Kocaoğlu

Radyolojik Değerlendirme

Ali Balcı

Hazırlık, Portaller ve Anatomi

Nuri Aydın

Sık Görülen Sorunlarda Artroskopik Görünüm

Mahir Mahiroğulları

Düğüm Teknikleri ve İlişkili Cihazlar

Umut Akgün

10:00-10:30

KAHVE MOLASI

10:30-10:45

KONFERANS 13: Eklem Kırıkdağı Yaralanmalarının Sporculara Etkileri

Lars Engebretsen

Oturum Başkanı: *Sefa Müezzinoğlu*

10:45-11:00

KONFERANS 14: Erken Osteoartrit'in Önlenmesi ve Tedavisi, Tartışmalar ve Bilinmeyenler

Lars Engebretsen

Oturum Başkanı: *Sefa Müezzinoğlu*

11:00-12:15

PANEL 4: Omuz İnstabilitesi

Oturum Başkanları: *Mehmet Demirtaş, Mehmet Ali Deveci*

Sporcudaki İlk Omuz Çıkığı

İbrahim Yanmış

Tekrarlayan Anterior İnstabilite

Mustafa Yel

SLAP Lezyonları

Ata Can Atalar

Eşlik Eden Kemik Defektleri

Şenol Akman

Posterior İnstabilite

Mustafa Karahan

Çok Yönlü İnstabilite

Taner Güneş

12:15-13:30

ÖĞLE YEMEĞİ

14:30-15:10

PANEL 5: Diz Çevresi Kırıklar

Oturum Başkanları: *Oğuz Poyanlı, Gazi Huri*

Distal Femur Kırıkları

Oğuz Poyanlı

Proksimal Tibia Kırıkları

Hasan Öztürk

Tibial Eminensia Kırıkları

Özgür Ahmet Atay

Patella Kırıkları

Hasan Bombacı

15:10-16:00

SERBEST BİLDİRİLER 6

Oturum Başkanları: *Ender Uğutmen, Erhan Yılmaz*

S34 Erken Gonartrozda Medial Açık Kama Yüksek Tibial Osteotomi Yapılan Hastaların Sonuçları
Cağdaş Pamuk, *Kaya Memişoğlu, Cumhur Cevdet Kesemenli, Ümit Sefa Müezzinoğlu*

S35 Trikalسيوم Fosfat Kama Kullanılarak Açık Kama Yüksek Tibial Osteotomi: Ön Sonuçlar
Sinan Zehir, *Murat Çalbiyık, Ercan Şahin, Mahmut Kalem, Murat Songür, Deniz İpek*

S36 Medial Gonartrozlu Varus Dizler İçin Proksimal Tibia Medial İki Düzlemli Tüberküle Arkası Açık Kama Osteotomisi

İsmail Türkmen, İrfan Esenkaya, Koray Ünay, Fatih Türkmensoy, Afşar Timuçin Özkut

S37 Robotik Yardımlı Medial Tek Kompartman Diz Artroplastisi Erken Sonuçları Başarılı mı?
Uğur Haklar, Ertuğrul Ulusoy, Tayfun Şimşek, Nuray Terzi

S38 Eşzamanlı İki Taraflı Total Diz Artroplastisinde Kan Kaybının Azaltılması: Damarıçi-Eklemeçi Birlikte Tranekzamik Asid Uygulaması

Fatih Karaaslan, *Musa Uğur Mermerkaya, Sinan Karaoğlu, Ali Bakır*

S39 Total Diz Artroplastisinde Asimetrik Femoral Kondil Arka Kesileri İle Femoral Komponentin Rotasyonu Arasındaki İlişki: Bir Morfometrik Çalışma

Harun Reşit Güngör, *Nusret Ök, Kadir Ağladioğlu, Semih Akkaya, Esat Kiter*

16:00-16:30

KAHVE MOLASI

16:30-17:45

KURS 5: Diz Ekleminde MRG

Oturum Başkanları: *Dinç Özaksoy, Emin Taşkıran*

Temel Teknik ve Sekanslar

Ali Balcı

Menisküslerin Değerlendirilmesi

Mehmet Argın

Ligamentlerin Değerlendirilmesi

Şebnem Örgüç

Kemik ve Eklem Kırıkdağının Değerlendirilmesi

Remide Arkun

Postoperatif Dizlerin Değerlendirilmesi

Remide Arkun

17:45-18:30

TÜBİTAK Ulusal Akademik Ar-Ge Proje Destekleri

Fatih Sinan Esen

SALON 1

07:30-08:40

KURS 6: Patellofemoral İnstabilite

Oturum Başkanları: *David Dejour, Semih Aydoğdu*

Klinik ve Radyolojik Tanı

Onur Tetik

Adolesanlarda PF İnstabilite Tedavisi

Merter Özenci

Erişkinlerde PF İnstabilite Tedavisi

İlhan Özkan

Revizyon Nedenleri ve Tedavisi

David Dejour

08:45-09:00

KONFERANS 22: TZP: Temel Bilimler Işığında Klinik Uygulamalar

Lars Engebretsen

Oturum Başkanları: *Özgür Ahmet Atay, Ali Öçgüder*

09:00-09:15

KONFERANS 23: ÖÇB Yaralanmalarının Önlenmesi

Lars Engebretsen

Oturum Başkanları: *Özgür Ahmet Atay, Ali Öçgüder*

09:15-09:30

KONFERANS 24: Akut Patella Çıkığı

David Dejour

Oturum Başkanları: *Özgür Ahmet Atay, Ali Öçgüder*

09:30-10:30

PANEL 11: AGA Paneli: Orta Yaşta Artrozlu Diz

Oturum Başkanları: *Sven Scheffler, Ersin Kuyucu*

Diz Çevresi Ostetomilerinde

Philipp Lobenhoffer

“Doğru ve Yanlış” Endikasyonlar Son 10 Yılda

Neler Öğrendik?

Artritlik Diz Eklemine Bağ

Sven Scheffler

İnstabilite/ Menisküs Yetmezliği: Biyolojik Rekonstrüksiyon Seçenekleri

Unikompartmental Diz Artroplastisinde Temel Prensipler

Roland Becker

10:30-11:00

KAHVE MOLASI

11:00-12:15

İNTERAKTİF PANEL 7: AGA Paneli: Orta Yaşta Artrozlu Diz (Kompleks Olgu Tartışması)

Oturum Başkanı: *Sven Scheffler*

Philipp Lobenhoffer, Roland Becker, Sven Scheffler

12:15-13:30

ÖĞLE YEMEĞİ

13:30-14:30

ATÖLYE ÇALIŞMASI

14:30-14:50

KONFERANS 27: Patello-Femoral Artrit Tedavisi

David Dejour

Oturum Başkanı: *Semih Gür*

14:50-15:10

KONFERANS 29: Diz Çıkığı Tedavisi: Acil Servisten Son Tedaviye

Michael Hantes

Oturum Başkanı: *Semih Gür*

15:10-16:00

SERBEST BİLDİRİLER 9

Oturum Başkanları: *Yaman Sarpel, Uğur Türктаş*

S59 Patellofemoral Ağrının Anlaşılması İçin Yeni Bir BelirteçΔQ

Faik Türkmen, Cem Sever, Bayram Yolcu, Mehmet Ali Acar, Burkay Kutluhan Kaçıra, Serdar Toker

S60 İskelet Matürasyonunu Tamamlamamış Hastalarda Medial Patellofemoral Bağın Rekonstrüksiyonunda Kendi Tekniğimiz

Hüseyin Serhat Yercan, Gürler Kale, Serkan Erkan, Taçkın Özalp, Güvenir Okçu

S61 Patella Kıkırdak Defektlerinde Vücut Kitle İndeksi, İnfrapatellar Yağ Yastığı Hacmi ve Yaşın Etkileri

Semra Duran, **Ertuğrul Akşahin**, Onur Kocadal, Cem Nuri Aktekin, Onur Hapa, Zeynep Bıyıklı Gençtürk

S62 Talus Osteokondral Lezyonlarının Cerrahi Tedavisinde Artroskopik Debridman ve Mikrokirik Uygulamasının Orta, Uzun Dönem Klinik ve Fonksiyonel Sonuçları,

Gökhan Polat, Taha Kızılkurt, Ömer Naci Ergin, Ali Erşen, Turgut Akgül, Önder Kılıçoğlu, Mehmet Aşık

S63 Femurbaşı Avasküler Nekrozunda Artroskopik Yardımlı Dekompresyon ve Kemik Greft Nakli- Yeni Bir Cerrahi Tekniğin Ön Sonucu

Athanasios V Papavasiliou, Nikolaos Koukoulis, Christos Sinopidis

S64 Artroskopik Hücresiz Osteokondral Çatı Cerrahisi Sonrası Fonksiyonel Sonuçlar

Selda Başar, Zeynep Hazar, Mehmet Gem, Ulunay Kanatlı

16:00-16:30

KAHVE MOLASI

16:30-17:00

KONFERANS 30: Diz Sorunlarında Femoral Osteotomiler Üzerine Yeni Gelişmeler

Philipp Lobenhoffer

Oturum Başkanı: Ahmet Sebik

17:00-18:00

PANEL 13: Dizde Çoklu Bağ Yaralanmaları

Oturum Başkanları: Hasan Tatari, Can Hürel

Fizik Muayene ve Tanı

Uğur Gönç

Karar Verme ve Greftler

Kürşat Teker

Kombine Posterolateral Yaralanmalar

John Gliatis

Kombine Posteromedial Yaralanmalar

John Gliatis

SALON 2

07:30-08:40

KURS 7: Adım Adım Menisküs Transplantasyonu

Oturum Başkanları: Sven Scheffler, Uğur Haklar

Endikasyonlar ve Hasta Seçimi

Murat Bozkurt

Preoperatif Planlama

Uğur Haklar

Cerrahi Teknikler

Sven Scheffler

Postoperatif İzlem

Selçuk Örsel

08:45-09:45

PANEL 9: Sporcularda Ayak Bileği Sorunları

Oturum Başkanları: Ahmet Turan Aydın, Zekeriya Öztumur

Talar Osteokondral Lezyonlar

Önder Kılıçoğlu

Sıkışma Sendromları

Devrim Akseki

Tendon Sorunları

Tahir Öğüt

İnstabilite

Mustafa Ürgüden

10:30-11:00

KAHVE MOLASI

12:15-13:30

ÖĞLE YEMEĞİ

13:30-14:30

ATÖLYE ÇALIŞMASI **BIOMET**® Salon B – Kat 1 bk. 20. sayfa

14:30-14:50

KONFERANS 28: Arka Ayak Artroskopisi

Ahmet Turan Aydın

Oturum Başkanı: Mustafa Ürgüden

14:50-16:00

SERBEST BİLDİRİLER 8

Oturum Başkanları: *Alper Kaya, Gökhan Meriç*

S51 Transtibial Tünel İle Anatomik Ön Çapraz Bağ Rekonstrüksiyonunun Fonksiyonel, Klinik ve Biyomekanik Karşılaştırması

*Eray Kılınç, Adnan Kara, Yunus Öç, **Haluk Celik**, Savaş Çamur, Osman Tuğrul Eren*

S52 Omuz Sıkışma Sendromunda “10 Fırlatma” Egzersiz Programının Ağrı ve Fonksiyon Üzerine Etkileri: Bir Pilot Çalışma

***Zeynep Hazar**, Gül Baltacı*

S53 Horizontal Menisküs Yırtıklarının Paketleme Tekniğiyle Vertikal Sütürlerle Artroskopik Onarımı

***Alper Kaya**, Tekin Kerem Ülkü, Barış Kocaoğlu, Hüseyin Arel Gereli, Burak Akan*

S54 Tibialis Anterior Allogrefti ile Primer Ön Çapraz Bağ Rekonstrüksiyonunun Fonksiyonel Sonuçları

*Selda Başar, **Enes Büyükaşar**, Zeynep Hazar, Baybars Ataoğlu, Ulunay Kanatlı*

S55 Düzgün Olmayan Yüzeyde Fonksiyonel Futbol Antrenmanı Genç Futbolcuların Alt Ekstremitelerinin Dinamik Stabilitelerini Nasıl Etkiler?

***Marcin Plenzler**, Natalia Mrozińska, Anna Mierzwińska, Olga Korbolewska, Daria Mejnartowicz, Marcin Popieluch, Robert Śmigielski*

S56 Kör ve Sağlıklı Sporcularda Ayakbileği Propriosepsiyonunun Karşılaştırılması

*Muhammet Özer, Haydar Kaynak, **Aziz Atik**, Mehtap Kaçmaz Şilil, Muammer Altun, Devrim Akseki*

S57 Travmatik Diz Çıkıklarında Prognostik Kriterler: 42 Olguluk Retrospektif Çalışma

***Tuna Pehlivanoğlu**, Halil İbrahim Balcı, Mehmet Chodza, Önder İsmet Kılıçoğlu*

S58 Eklem İçi Kırık Sinovyal Sıvının Lubrikan İçeriğini Değiştiriyor mu?

***Gökhan Polat**, Mehmet Erdil, Hasan Deniz Kara, Elif Kılıç, Abdurrahim Koçyiğit, İbrahim Tuncay*

16:00-16:30

KAHVE MOLASI

16:30-17:30

PANEL 12: Sporcunun Kabusu

Oturum Başkanları: *Bülent Zeren, Reha Akdal*

Hamstring Yaralanmaları

Haluk Hayri Öztekin

Osteitis Pubis

Bülent Zeren

Aşil Tendon Sorunları

Akın Turgut

Tekrar Yaralanma Korkusu

Hayriye Elbi

17:30-18:30

PANEL 15: Yurtdışına Nasıl Gittim? Neler Gördüm? Bundan Sonra...

Oturum Başkanları: *Halit Pınar, Mehmet Erduran*

Gazi Huri, Aydın Budeyri, Gökhan Meriç, Levent Sürer, Ersin Kuyucu

SALON 3

08:00-09:00 **KURS 8: Spor Ayakkabıları ve Ayak Ortezleri için Klinik Karar Verme - Ayağın Değerlendirilmesi**
Oturum Başkanları: *Nilgün Bek, Özgür Bozan*
Ayak'ta dur! (mak) *Engin Şimşek, Nilgün Bek*

09:00-09:20 **KONFERANS 21: Saha Kenarından Bakmak ya da Görmek** *Burhan Uslu*
Oturum Başkanı: *Haluk Hayri Öztekin*

09:20-09:50 **Panel 10: ÖÇB Yaralanmalarında Risk Faktörleri**
Oturum Başkanları: *İnci Yüksel, Metin Ergün*
İntrensek Faktörler *Hayri Baran Yosmaoğlu*
Ekstrensek Faktörler *Seçkin Şenışık*

09:50-10:15 **KONFERANS 25: Sporunun Performans Profili, Fizyolojik Eşiği ve Yaralanmaya Eğilimi** *Cengizhan Özgürbüz*
Oturum Başkanı: *Volga Bayrakçı Tunay*

10:15-10:30 **KONFERANS 26: ÖÇB Rekonstrüksiyonu Sonrası Propriozeptif Eğitim (TUSYAD Proprioepsiyon Kurulu)** *Defne Kaya*
Oturum Başkanı: *Volga Bayrakçı Tunay*

10:30-11:00 **KAHVE MOLASI**

11:00-12:15 **KURS 9: Sporcuda Kasık Ağrısına Multidisipliner Yaklaşım**
Oturum Başkanları: *Asım Baykan, Gürhan Dönmez*
Radyolog Gözüyle *Ali Türk*
Spor Hekimi Gözüyle *Gürhan Dönmez*
Ortopedist Gözüyle *Asım Baykan*
Genel Cerrah Gözüyle *Selman Sökmen*
Fizyoterapistin Rolü *Serdar Arslan*

12:15-13:15 **ÖĞLE YEMEĞİ**

13:15-14:30 **KURS 10: Kinesio Bantlama**
Oturum Başkanları: *Gül Baltacı, Murat Tomruk*
Terminoloji ve Fizyoloji *Gül Baltacı*
Üst Ekstremité *Nihan Özünü Pekiyaş*
Alt Ekstremité *Gül Baltacı*
Kanıtı Dayalı Çalışmalar *Volga Bayrakçı Tunay*

14:30-16:00 **SERBEST BİLDİRİLER 7**
Oturum Başkanları: *Nihal Gelecek, Ayşe Özden*

S40 Ön Çapraz Bağ Rekonstrüksiyonu Sonrası Erken Dönemde Diz Kas Gücü Geri Kazanımı
Gülcan Harput, *Hasan Erkan Kılınç, Hamza Özer, Gül Baltacı, Carl G. Mattacola*

S41 Ön Çapraz Bağ Rekonstrüksiyonu Yapılmış Olgularda Hangisi Kas Performansını Arttırır: Breys mi Bant mı?
Gülcan Harput, *Burak Ulusoy, Ahmet Özgür Atay, Gül Baltacı*

S42 Ön Çapraz Bağ Yaşam Kalitesi Sorgulaması: Türkçe Çevirinin Güvenilirlik, Doğruluk ve Yanıt Verilebilirlik Değerlendirmesi

Gizem İrem Kınıklı, Derya Çelik, Özgür Ahmet Atay, İnci Yüksel

S43 Sağlıklı Bireylerde ve Ön Çapraz Bağ Rekonstrüksiyonu Sonrası 1 Yıl Takipli Hastalarda Diz Çevirici Kas Güçlerinin Karşılaştırılması

Marcin Popieluch, Robert Śmigielski, Dariusz Straszewski, Marcin Plenzler, Michał Staniszewski

S44 Subakromiyal Sıkışma Sendromunda Şok Dalga Tedavisinin Etkileri

Nur Selin Öztürk, **Nihal Gelecek**, Sema Savcı

S45 Subakromiyal Sıkışma Sendromunda Propriyoseptif Nöromusküler Uyarı (PNF) ve Mulligan Yaklaşımının Ağrı, Fonksiyonel Düzey ve Yaşam Kalitesine Etkileri

Sinem Karakuş, **Nihal Gelecek**, Sevgi Sevi Yeşilyaprak

S46 Patellofemoral Ağrılı Hastalarda Farklı İzokinetik Egzersiz Programlarının Hamstring/ Kuadriseps Oranları ve Derin Duyu Üzerine Etkileri

Hande Güney, İnci Yüksel, Defne Kaya, Mahmut Nedim Doral

S47 CMC Fizik Tedavi Ekibi Tarafından Bildirilmiş Konsolide Rehabilitasyon Programı Uygulanan Bireylerde Anatomik Ön Çapraz Bağ Rekonstrüksiyonu Öncesi ve Sonrası Patella Diziliminin MRG Değerlendirmesi

Dariusz Straszewski, **Marcin Plenzler**, Joanna Szczepaniak, Robert Śmigielski, Beata Ciszowska-Łysoń, Marcin Popieluch, Szymon Kopko

S48 Skapular Diskineziye Pektoralis Minor ve Üst Trapez Kas Gerginliğinin Etkisi

Sevgi Sevi Yeşilyaprak, **Ertuğrul Yüksel**, Serpil Kalkan

S49 Ön Çapraz Bağ Rekonstrüksiyonu Sonrası Gövde Stabilizasyon Eğitimi

Özge Cınar Medeni, Kezban Bayramlar, Gül Baltacı, İbrahim Yanmış

S50 Gövde Kitlesi, Gövde Kitle İndeksi ve Gövde Yağ Oranı Derin Duyuyu Etkiler mi?

Esra Ateş Numanoğlu, Filiz Can, Zafer Erden

16:00-16:30

KAHVE MOLASI

16:30-16:50

KONFERANS 31: Skapuler Diskinezi ve Tedavisi

Sevgi Sevi Yeşilyaprak

Oturum Başkanı: Nazan Tuğay

16:50-17:50

PANEL 14: Hayat Boyu Spor

Oturum Başkanları: Nevin Ergun, Çetin İşleğen

Kronik Hastalıklarda Egzersiz

Mehtap Malkoç

Osteoporoz ve Egzersiz

Metin Ergün

Osteoartrit ve Egzersiz

Nihal Gelecek

Yaşlanmayı Önleyici Olarak Egzersiz

Oğuz Yüksel

CUMARTESİ, 27 EYLÜL 2014

SALON 1

07:30-09:00

KURS 11: ÖÇB Rekonstrüksiyonunun Temel İlkeleri: Güncelleme

Oturum Başkanları: *Bülent Aksoy, Egemen Turhan*

Hasta Seçimi, Endikasyonlar ve Zamanlama

Bülent Aksoy

Greft Seçimi

Ahmet Uğur Turhan

Tünellerin Hazırlanması

Emin Bal

Patellar Tendon

Sefa Müezzinoğlu

Hamstring

Hamza Özer

Parsiyel Yaralanmalar

Burak Demirağ

Postoperatif Rehabilitasyon

Selmin Gülbahar

09:00-09:30

KONFERANS 32: Diz Çevresindeki Kötü Kaynamaların Tedavisi

Philipp Lobenhoffer

Oturum Başkanı: *Abdullah Göğüş*

09:30-10:00

KONFERANS 35: Diz Osteoartritinde Osteotomi, Ünikompartmantal ve Total Diz Artroplastisinin Endikasyonları

Philipp Lobenhoffer

Oturum Başkanı: *Abdullah Göğüş*

10:00-10:30

KAHVE MOLASI

10:30-11:45

PANEL 16: Revizyon Diz Artroplastisinde Pratik Çözümler

Oturum Başkanları: *İlker Çetin, Fatih Karaaslan*

Cerrahi Yaklaşım ve Komponentlerin Çıkarılması

Abdullah Göğüş

Kemik Defektlerinin Onarımı

Ertuğrul Şener

Eklem Seviyesi ve Bağ Dengesinin Sağlanması

İrfan Öztürk

Ekstensor Mekanizmanın Onarımı

Hakan Boya

Cerrahinin Postoperatif Rehabilitasyona Etkisi

Burak Beksaç

11:45-12:30

ÖDÜL TÖRENİ VE KAPANIŞ

SALON 2

07:30-08:45

KURS 12: Ünikompartmantal Diz Artroplastisi

Oturum Başkanları: *İbrahim Tuncay, Mehmet Erduran*

Endikasyonlar ve Hasta Seçimi

Mehmet Erduran

Sabit İnsert Temel Teknik

Roland Becker

Hareketli İnsert Temel Teknik

Meriç Ünal

Komplikasyonlar ve Çözümleri

İbrahim Tuncay

Revizyon

İlker Çetin

09:00-09:30

Dejeneratif Dizde Non-Biyolojik Olmayan Cerrahi Alternatifler

Oturum Başkanı: *Akif Güleç*

KONFERANS 33: Parsiyel Diz Artroplastisinde Robotik Cerrahi

Uğur Haklar

KONFERANS 34: Yüzey Artroplastileri

Tahsin Beyzadeoğlu

10:00-10:30

KAHVE MOLASI

10:30-11:45

KURS 13: Diz Çevresi Osteotomiler

Oturum Başkanları: *İrfan Esenkaya, Bora Bostan*

Hasta Seçimi ve Planlama

Cemil Kayalı

Açık Kama Proksimal Tibial Osteotomi

İrfan Esenkaya

Kapalı Kama Proksimal Tibial Osteotomi

Hüseyin Serhat Yercan

Kubbe Osteotomisi

Elcil Kaya Biçer

Femoral Osteotomi

Atilla Kocabaş

Scientific Program

WEDNESDAY, 24 SEPTEMBER 2014

HALL 1

- 08:30-08:50** LECTURE 1: My 35-Year Struggle in ACL Reconstruction *Konsei Shino*
Chair: *Mahmut Nedim Doral*
- 08:50-09:10** LECTURE 2: Factors Affecting the Success of ACL Reconstruction *Philippe Neyret*
Chair: *Mahmut Nedim Doral*
- 09:10-10:00** INTERACTIVE PANEL 1: ACL Reconstruction: My Preferred Technique
Chair: *Mehmet Binnet*
Konsei Shino, Sinan Karaoğlu, Philippe Neyret, Charles Brown
- 10:00-10:30** COFFEE BREAK
- 10:30-11:15** INTERACTIVE PANEL 2: ACL (COMPLEX CASE DISCUSSION)
Chair: *Charles Brown*
Mitsuo Ochi, Ömer Taşer, Philippe Neyret, Merter Özenci
- 11:15-11:30** LECTURE 3: ACL Augmentation *Mitsuo Ochi*
Chair: *Bülent Alparslan*
- 11:30-11:50** LECTURE 4: APKASS Lecture: Cartilage Repair: Past, Present and Future (Lessons Learned) *Mitsuo Ochi*
Chair: *Bülent Alparslan*
- 11:50-12:30** OPENING CEREMONY
- 12:30-13:30** LUNCH
- 13:30-14:30** SATELLITE PANEL  Refer to Page 20
- 14:30-15:20** FREE PAPERS 1
Chairs: *Merter Özenci, Tolga Atay*
- S01** Central Defect Type Partial ACL Injury Model on Goat Knees: The Effect of Infrapatellar Fat-Pad Excision
Bekir Karakılıç, *Emin Taşkiran, Başak Doğanavşargil, Salih Çelik*
- S02** Evaluation of Short Term Outcomes of Transportal Femoral Cross Pin Fixation in Anterior Cruciate Ligament Reconstruction
Sinan Zehir, *Ercan Şahin, Murat Çalbıyık, Mahmut Kalem, Deniz İpek, Murat Songür*
- S03** Incidence of Meniscal Tears Accompanying ACL Ruptures: Earlier ACL Reconstruction, Less Meniscal Tear
Hasan Tatari, *Vugar Guliyev*
- S04** Radiologic and Clinical Evaluation of Anatomic and Transtibial ACL Reconstruction in a Population Excluding Professional Athletes
Zeki Taşdemir, *Safiye Tokgöz Özal, Nurzat Elmalı, Fevzi Sağlam*

S05 Can an Anatomic ACL Reconstruction be Performed with Two Standard Portals?

*Cem Coşkun Avcı, **Hüseyin Koca**, Necdet Sağlam, Tuhan Kurtulmuş, Gürsel Saka*

S06 Evaluation of Graft Revascularization with Contrast-Enhanced MRI After Single Bundle Anterior Cruciate Ligament Reconstruction

***Bülent Bektaşer**, Özgür Tosun, Nadir Yalçın, Nurdan Çay, Kasım Kılıçarslan*

15:20-15:50

DEBATE 1: Life without ACL?

Elif Akalın, Hasan Tatari

Chair: *Osman Karaoğlan*

15:50-16:15

COFFEE BREAK

16:15-17:15

INTERACTIVE PANEL 3: Primary TKA in Complex Cases (CASE BASED)

Chair: *Şükrü Araç*

Genu Valgum

Fahri Erdoğan

Stiff Knee

Nejat Güney

Genu Recurvatum

Bülent Atilla

Extraarticular Deformity

Remzi Tözün

17:15-18:15

PANEL 3: Painful Primary Total Knee Replacement: Diagnosis and Indications for Revision

Chairs: *Hakkı Sur, Hüseyin Yorgancıgil*

Infection

Kaya Akan

Instability

Semih Aydoğdu

Patellofemoral problems

Zeki Özcan

Stiffness

Yaman Sarpel

19:00

WELCOME COCKTAIL

HALL 2

14:30-15:30

FREE PAPERS 2

Chairs: *İrfan Esenkaya, Cemil Kayalı*

S07 The Effect of Autologous Platelet Rich Plasma in the Treatment of Achilles Tendon Ruptures: an Experimental Study on Rabbits?

***Baran Şen**, Serkan Güler, Berivan Çeçen, Erdem Kumtepe, Alper Bağrıyanık, Sermin Özkal, M. Ali Özcan, Hayri Özsan, Namık Şanlı, Hasan Tatari*

S08 Poss-Nanocomposite Material: A Tissue Engineering Solution for Tendon Injuries

***Günay Verdiyeva**, Haroon A. Mann, Alexander M. Seifalian*

S09 The Comparison of Results of Early and Late Rehabilitation Arthroscopic Following Bankart Repair with Knotless Anchor in Recurrent Traumatic Anterior Shoulder Dislocation

***Harun Kütahya**, Mustafa Yel, Onur Bilge, Ali Güleç, Burcak Kutluhan Kaçıra, Serdar Tokar*

S10 Arthroscopic Latarjet Procedure: Learning Curve And Short - Term Results

***Kerem Bilsel**, Gökçer Uzer, Mehmet Elmadağ, Fatih Yıldız, Jotyari Ali, İbrahim Tuncay*

S11 Results of Arthroscopic Treatment in Acute Acromioclavicular Joint Dislocation

***Kerem Bilsel**, Mehmet Elmadağ, Gökçer Uzer, Fatih Yıldız, Ahmet Can Erdem, İbrahim Tuncay*

S12 Short-Term Results of Autologous Conditioned Serum-ACS (Orthokine) in the Treatment of Chronic Lateral Epicondylitis

Deniz İpek, Murat Çalbiyık, Sinan Zehir

S13 Stabilization of Dynamic Scapholunate Instability with Bone Graft - Arthroscopic Technique
Igor Cizmar

15:30-15:50

LECTURE 5: Osteochondral Graft Transfer for Talar OCL

Ömer Taşer

Chair: Uğur Öziç

15:50-16:15

COFFEE BREAK

16:15-16:35

LECTURE 7: Anatomic PCL Reconstruction Updated

Konsei Shino

Chair: İlhan Özkan

16:35-17:50

PANEL 2: How do You Manage the Patients with Rotator Cuff Tear?

Chairs: Mehmet Demirhan, Haldun Orhun

Which Patients are the Best Candidates for Rotator Cuff Repair?

Mehmet Uğur Özbaydar

Conservative Treatment in Rotator Cuff Tears (When do I Refer to the Orthopaedic Surgeon?)

Özlem El

Biological Factors for Better Rotator Cuff Healing: Do We Need Platelet Rich Plasma?

Mustafa Özkan

Irreparable Rotator Cuff Tear; What is the Next Option?

Hayrettin Kesmezacar

What is the Role of Acromioplasty in Rotator Cuff Repair?

Mehmet Demirhan

HALL 3

13:30-14:30

Rational Drug Use

Cemil Kayalı

Chair: Reha Akdal

14:30-15:30

FREE PAPERS 3

Chairs: Alper Kılıç, Zeki Özcan

S14 Comparison of Mesenchymal Stem Cell Versus Bone Marrow Treatment to Enhance Tendon to Bone Healing in an Animal Model

Erdem Aktaş, Jun Lu, Connie Chamberlain, Erin Saether, Jae Sung Lee, Ray Vanderby

S15 Achilles Tendon Open Repair Augmented with Volar Turndown Tendon Flap and Deep Posterior Crural Fasciotomy

Hamza Özer, Hakan Selek, Gülcan Harput, Ali Öznur, Gül Baltacı

S16 The Effects of Additional Mechanical External Compression Hemarthrosis After Arthroscopic External Capsul Release

Onur Bilge, **Mustafa Yel**, Mahmut Nedim Doral

S17 Patient Satisfaction After Radioactive Synovectomy

Elcil Kaya Biçer, Semih Aydoğdu, Hakkı Sur

S18 Radiological Changes in the Patellofemoral Joint in Hemophilic Arthropathy

Elcil Kaya Biçer, Kemal Kayaokay, Semih Aydoğdu, Kaan Kavaklı, Can Balkan, Hakkı Sur

S19 15-Year-Experience of a Knee Arthroscopist: From Diagnostic to Reconstructive Surgery

Hasan Tatari, Yunus Emre Bektaş, Demirhan Demirkıran, Hülya Ellidokuz

S20 Retrospective Evaluation of Tibial Plateau Fractures Treated by Arthroscopy-Assisted Reduction and Osteosynthesis and the Role of Arthroscopy in Tibial Plateau Fractures

Hasan Öztürk, **Mahmut Tuzlu**, Ahmet Savran, Bayram Köse

15:30-15:50

LECTURE 6: What does the Evidence Say on Single or Double Row Rotator Cuff Repair?

Sercan Akpınar

Chair: *Ahmet Ekin*

15:50-16:15

COFFEE BREAK

16:15-17:00

PANEL 1: Elbow Instabilities in Athletes

Chairs: *Yalçın Ademoğlu, Kadir Bacakoğlu*

Medial Instability

Mehmet Demirtaş

Lateral Instability

Kadir Bacakoğlu

Complex Instability

Murat Kayalar

17:00-18:00

ICL 1: Critical Exposures of the Knee

Chairs: *Hüseyin Yercan, Cem Çopuroğlu*

Posteromedial

Charles Brown

Posterolateral

Hakan Özsoy

Posterior

Hüseyin Serhat Yercan

HALL 1

- 07:30-08:30** **ICL2: Principles of Cartilage Repair Techniques**
Chairs: *Nurzat Elmalı, Tahsin Beyzadeoğlu*
General Principles and Algorithm *Murat Demirel*
Treatment of Lesions < 2,5 cm² *Nurzat Elmalı*
Treatment of Lesions Between 2,5-4 cm² *Özgür Ahmet Atay*
Treatment of Lesions > 4 cm² *Tahsin Beyzadeoğlu*
- 08:40-09:00** **LECTURE 8: Legend's Lecture: History of Arthroscopy** *Ejnar Eriksson*
Chair: *Veli Lök*
- 09:00-09:20** **LECTURE 9: ISAKOS Lecture: Contribution of the Lyon School to the Management of Patellofemoral Joint** *Philippe Neyret*
Chairs: *Halit Pınar, Esra Çirci*
- 09:20-09:40** **LECTURE 10: ESSKA Lecture: Meniscal Repair: Tips, Tricks and Long Term Results** *Michael Hantes*
Chairs: *Halit Pınar, Esra Çirci*
- 09:40-10:00** **LECTURE 11: EFOST Lecture: ACL is not a Unique Ligament in the Knee Joint!** *Mahmut Nedim Doral*
Chairs: *Halit Pınar, Esra Çirci*
- 10:00-10:30** **COFFEE BREAK**
- 10:30-11:30** **INTERACTIVE PANEL 4: Revision ACL: How I do?**
Chairs: *Charles Brown, Mustafa Karahan*
Philippe Neyret, Ömer Taşer, Konsei Shino, Asım Kayaalp
- 11:30-11:45** **LECTURE 15: One Year after ACL Reconstruction** *Lars Engebretsen*
Chair: *Mustafa Karahan*
- 11:45-12:15** **DEBATE 2: Approach to ACL Injuries in Pediatric Patients**
Chair: *Sinan Karaoğlu*
Conservative Treatment *Lars Engebretsen*
Surgical Treatment *Reha Tandoğan*
- 12:15-12:30** **LECTURE 16: Surgical Approach to Partial Achilles Tendon Ruptures** *Robert Smigielski*
Chair: *Sinan Karaoğlu*
- 12:30-13:30** **LUNCH**
- 13:30-14:30** **WORKSHOP**  **Hall A Level 1 Refer to Page 20**
- 14:30-14:50** **LECTURE 17: Concept of Femoro-Acetabular Impingement and Comparison of Arthroscopy, Mini Open Surgery and Safe Dislocation** *Athanasios V. Papavasiliou*
Chair: *Mehmet Aşık*

14:50-15:10

LECTURE 20: Hip Instability and the Management of the Capsule During Hip Arthroscopy

Athanasios V. Papavasiliou

Chair: *Mehmet Aşık*

15:10-16:00

FREE PAPERS 5

Chairs: *Mehmet Altun, Mehmet Akif Altay*

S28 Attic of Femoral Tunnel in Arthroscopic Anterior Cruciate Ligament Surgery

Ahmet Fırat, *Mehmet Faruk Çatma, Birol Tunç, Çiğdem Hacıhafizoğlu, Murat Altay, Murat Bozkurt, Mehmet İsmail Safa Kapıcıoğlu, Osman Tecimel*

S29 Anterior Cruciate Ligament Reconstruction Using Achilles Tendon Allograft: A Retrospective Comparison of Tunnel Widening Upon Use of Two Different Femoral Fixation Methods

Musa Uğur Mermerkaya, *Ahmet Özgür Atay, Şenol Bekmez, Fatih Karaaslan, Erkan Alkan, Mahmut Nedim Doral*

S30 Comparison of the Graft Values with Contralateral Normal Knees as Measured with MRI in Anterior Cruciate Ligament Reconstructed Patients via Anteromedial Portal or Transtibial Method: Tibial Tunnel or Graft Placement?

Olca Güler, *Mahir Mahiroğulları, Serhat Mutlu, Mehmet Halis Çerçi, Ali Şeker, Selami Çakmak*

S31 Injury of the Infrapatellar Branch of the Saphenous Nerve During Hamstring Graft Harvest: Comparison of Two Different Incisions

Serkan Sipahioğlu, *Sinan Zehir, İslam Baykara, Ali Bilge*

S32 Reducing Intra-Articular Hemarthrosis After Arthroscopic Anterior Cruciate Ligament Reconstruction: Combined Intravenous-Intra-Articular Tranexamic Acid Administration

Fatih Karaaslan, *Sinan Karaoğlu, Musa Uğur Mermerkaya*

S33 Return to Soccer Following Anterior Cruciate Ligament Reconstruction

Emmanuel Papacostas, *Efthymios Papasoulis, Kostas Epaminontidis, Ioannis Terzidis, Aristotelis Sideridis*

16:00-16:30

COFFEE BREAK

16:30-17:30

PANEL 6: Articular Cartilage Repair in 2014

Chairs: *Işık Akgün, Umut Akgün*

What's Going on in the Lab?

Dilek Taşkıran

Cell Based Cartilage Repair

Mehmet Binnet

Microfracture Augmentation

Mahmut Nedim Doral

Mesenchymal Stem Cell

Mehmet Can Ünlü

Focal Cartilage Defects: Evidence Based Approach

Lars Engebretsen

17:30-18:30

INTERACTIVE PANEL 6: Cartilage Repair (COMPLEX CASE DISCUSSION)

Chair: *Reha Tandoğan*

Işık Akgün, Mehmet Aşık, Tahsin Beyzadeoğlu, Lars Engebretsen

HALL 2

07:30-08:30

ICL 3: Hip Arthroscopy

Chairs: *Asim Kayaalp, Onur Hapa*

Indications and Diagnosis

Onur Hapa

Set-up, Portals and Arthroscopic Anatomy

Sarper Çetinkaya

Intraarticular Procedures

Asim Kayaalp

Extraarticular Procedures

Athanasios V. Papavasiliou

Complications and Prevention

Mehmet Aşık

10:00-10:30

COFFEE BREAK

10:30-10:45

LECTURE 12: Arthroscopic Approach to Ankle Instability

Robert Smigielski

Chair: *İlhan Özkan*

10:45-12:30

INTERACTIVE PANEL 5: "I am in Trouble" (CASE BASED)

Chairs: *Bülent Alparlan, İlhan Özkan*

Müjdat Enginsu, Umut Akgün, Hasan Tatari, Ender Ugutmen, Asim Kayaalp, Alper Kaya, Osman Tuğrul Eren, Hakan Özsoy, Hüseyin Serhat Yercan

12:30-13:30

LUNCH

13:30-14:30

WORKSHOP



Hall B - Level 1 Refer to Page 20

14:30-14:45

LECTURE 18: Bone Marrow Edema

Cumhur Cevdet Kesemenli

Chair: *İsmet Tan*

14:45-15:00

LECTURE 19: Osteonecrosis

Işık Akgün

Chair: *İsmet Tan*

15:00-16:00

FREE PAPERS 4

Chairs: *Uğur Haklar, Ersin Erçin*

S21 Changes in Knee Joint Loading Patterns After Medial Meniscus Subluxation: a Finite Element Analysis Study

Kemal Gökkuş, Halil Atmaca, Levent Uğur, Arif Özkan, Ahmet Turan Aydın

S22 Measurement of Regional Bone Density of the Knee Following Anterior Cruciate Ligament Rupture by Computed Tomography

Ali Balcı, Naciye Sinem Gezer, Hasan Tatari, Mehmet Erduran, Behzad Saleky,

Erol Kaya, Dinç Özaksoy

S23 Results of Meniscus Repair for the Hypermobility Medial Meniscus

Serdar Söylev, Halit Pınar

S24 How Consistent are MRI Findings and Clinical Outcomes After Meniscus Repair?

Hasan Bombacı, Fatih Çetinkaya, Kaan Meriç

S25 Results of Arthroscopic Repair in Meniscal Tears

Murat Aşık, Mehmet Burtaç Eren, Erkal Bilgiç, Taner Güneş, Bora Bostan

S26 Meniscal Repair in High Level Athletes Using the All-Inside Technique: Factors Associated with Failure

Ioannis Terzidis, Aristotelis Sideridis, Mattheos Savvidis, Nikolaos Koukoulis, Efthymios Papasoulis, Emmanuel Papacostas

S27 Indications and Results of Hip Arthroscopy in 288 Consecutive Patients with a Minimum Follow-Up of 6 Months

Athanasios V Papavasiliou, Nikolaos Koukoulis, Christos Sinopidis

16:00-16:30 **COFFEE BREAK**

16:30-17:30 **PANEL 7: Pearls and Pitfalls in Primary TKA**

Chairs: *Mümtaz Alpaslan, Fuat Duygulu*

Fixed or Mobile Insert

Servet Tunay

To Sacrifice PCL or not

Mazhar Tokgözoğlu

When and How Much Constrained

Özal Özcan

Patellar Component and Alternatives

Hakkı Sur

17:30-18:30 **PANEL 8: Tough Issues in Meniscal Surgery**

Chairs: *Aziz Alturfan, Yavuz Kocabey*

Extended Indications in Meniscal Repair

Yavuz Kocabey

Root Repairs

Emin Taşkıran

Meniscal Scaffolds and Implants

Philippe Neyret

Meniscal Transplantation

Uğur Haklar

HALL 3

07:30-08:40 **ICL 4: Approach to Shoulder Disorders: Tips for the Beginners to Arthroscopy**

Chairs: *Mahir Mahiroğulları, Burak Öztürk*

History, Clinical Evaluation and Useful Tests

Barış Kocaoğlu

Radiodiagnostics

Ali Balcı

Set-up, Arthroscopic Portals and Anatomy

Nuri Aydın

Arthroscopic View of Common Disorders

Mahir Mahiroğulları

Knot Techniques and Related Devices

Umut Akgün

10:00-10:30 **COFFEE BREAK**

10:30-10:45 **LECTURE 13: The Impact of Articular Cartilage Injuries in Athletes**

Lars Engebretsen

Chair: *Sefa Müezzinoğlu*

10:45-11:00 **LECTURE 14: Prevention and Management of Early Osteoarthritis - Challenges and Unknowns**

Lars Engebretsen

Chair: *Sefa Müezzinoğlu*

11:00-12:15 **PANEL 4: Shoulder Instability**

Chairs: *Mehmet Demirtaş, Mehmet Ali Deveci*

First Time Dislocation in the Athlete

İbrahim Yanmış

Recurrent Anterior Instability

Mustafa Yel

SLAP Lesions

Ata Can Atalar

Cases with Bony Defects

Şenol Akman

Posterior Instability

Mustafa Karahan

Multidirectional Instability

Taner Güneş

12:15-13:30 **LUNCH**

14:30-15:10

PANEL 5: Fractures Around the Knee

Chairs: *Oğuz Poyanlı, Gazi Huri*

Distal Femoral Fractures

Oğuz Poyanlı

Proximal Tibial Fractures

Hasan Öztürk

Tibial Eminence Fractures

Özgür Ahmet Atay

Patellar Fractures

Hasan Bombacı

15:10-16:00

FREE PAPERS 6

Chairs: *Ender Ugutmen, Erhan Yılmaz*

S34 Results of Medial Opening Wedge High Tibial Osteotomy in Early-Stage Gonarthrosis

Cağdaş Pamuk, *Kaya Memişoğlu, Cumhur Cevdet Kesemenli, Ümit Sefa Müezzinoğlu*

S35 Opening Wedge High Tibial Osteotomy Using Tricalcium Phosphate Wedge: Preliminary Results

Sinan Zehir, *Murat Çalbiyık, Ercan Şahin, Mahmut Kalem, Murat Songür, Deniz İpek*

S36 Proximal Tibia Medial Biplanar Retrotubercle Open Wedge Osteotomy for Varus Knees with Medial Gonarthrosis

İsmail Türkmen, İrfan Esenkaya, Koray Ünal, Fatih Türkmensoy, Afsar Timuçin Özkut

S37 Are Early Results of Robotic Assisted Medial Unicompartmental Knee Arthroplasty Successful?

Uğur Haklar, Ertuğrul Ulusoy, Tayfun Şimşek, Nuray Terzi

S38 Reducing Blood Loss in Simultaneous Bilateral Total Knee Arthroplasty: Combined Intravenous Intra-Articular Tranexamic Acid Administration

Fatih Karaaslan, *Musa Uğur Mermerkaya, Sinan Karaoğlu, Ali Bakır*

S39 Correlation Between Asymmetric Resection of Posterior Femoral Condyles and Femoral Component Rotation in Total Knee Arthroplasty; A Morphometric Study

Harun Reşit Güngör, *Nusret Ök, Kadir Ağladioğlu, Semih Akkaya, Esat Kiter*

16:00-16:30

COFFEE BREAK

16:30-17:45

ICL 5: MRI of the Knee Joint

Chairs: *Dinç Özaksoy, Emin Taşkiran*

Basic Techniques and Sequences

Ali Balcı

Evaluation of Meniscus

Mehmet Argın

Evaluation of Ligaments

Şebnem Örgüç

Evaluation of Bone and Articular Cartilage

Remide Arkun

Evaluation of Postoperative Knees

Remide Arkun

17:45-18:30

TÜBİTAK National Academic R&D Grants

Fatih Sinan Esen

HALL 1

07:30-08:40	ICL 6: Patellofemoral Instability Chairs: <i>David Dejour, Semih Aydođdu</i> Clinical and Radiological Diagnosis Management of PF Instability in Adolescents Management of PF Instability in Adults Causes of Revision and Treatment	<i>Onur Tetik</i> <i>Merter Özenci</i> <i>İlhan Özkan</i> <i>David Dejour</i>
08:45-09:00	LECTURE 22: PRP: A Clinical Perspective with Some Basic Science Chairs: <i>Özgür Ahmet Atay, Ali Öçgüder</i>	<i>Lars Engebretsen</i>
09:00-09:15	LECTURE 23: Prevention of ACL Injuries Chairs: <i>Özgür Ahmet Atay, Ali Öçgüder</i>	<i>Lars Engebretsen</i>
09:15-09:30	LECTURE 24: Acute Patellar Dislocation Chairs: <i>Özgür Ahmet Atay, Ali Öçgüder</i>	<i>David Dejour</i>
09:30-10:30	PANEL 11: AGA Symposium: Middle-Aged Arthritic Knee Chairs: <i>Sven Scheffler, Ersin Kuyucu</i> The "Right and Wrong" Indications for Osteotomies Around the Knee Joint - What have we Learnt in the Last 10 Years? Ligamentous Instabilities / Meniscus Insufficiency of the Arthritic Knee Joint: What Reconstructive Biological Options are Justified? Basic Principles and Considerations of Unicompartmental Knee Arthroplasty	<i>Philipp Lobenhoffer</i> <i>Sven Scheffler</i> <i>Roland Becker</i>
10:30-11:00	COFFEE BREAK	
11:00-12:15	INTERACTIVE PANEL 7: AGA Symposium: Middle-Aged Arthritic Knee (COMPLEX CASE DISCUSSION) Chair: <i>Sven Scheffler</i> <i>Philipp Lobenhoffer, Roland Becker, Sven Scheffler</i>	
12.15-13:30	LUNCH	
13:30-14:30	WORKSHOP	
14:30-14:50	LECTURE 27: Patellofemoral Arthritis: The Key for Treatment Chair: <i>Semih Gür</i>	<i>David Dejour</i>
14:50-15:10	LECTURE 29: Management of Knee Dislocation: From the Emergency Department to Final Treatment Chair: <i>Semih Gür</i>	<i>Michael Hantes</i>

15:10-16:00

FREE PAPERS 9

Chairs: *Yaman Sarpel, Uğur Türkteş*

S59 A New Parameter for Understanding Patellofemoral Pain: ΔQ

Faik Türkmen, Cem Sever, Bayram Yolcu, Mehmet Ali Acar, Burkay Kutluhan Kaçıra, Serdar Tokar

S60 Our Technique for Medial Patellofemoral Ligament Reconstruction in Skeletally Immature Patients

Hüseyin Serhat Yercan, Gürler Kale, Serkan Erkan, Taçkın Özalp, Güvenir Okçu

S61 Effects of Body Mass Index, Infrapatellar Fat Pad Volume and Age on Patellar Cartilage Defect

Semra Duran, **Ertuğrul Akşahin**, Onur Kocadal, Cem Nuri Aktekin, Onur Hapa, Zeynep Bıyıklı Gençtürk

S62 Mid to Long-Term Clinical and Functional Results of Arthroscopic Debridement and Microfracture in Osteochondral Lesions of Talus

Gökhan Polat, Taha Kızılkurt, Ömer Naci Ergin, Ali Erşen, Turgut Akgül, Önder Kılıçoğlu, Mehmet Aşık

S63 Arthroscopic Assisted Decompression and Bone Transportation in Avascular Necrosis of the Femoral Head - A Preliminary Report of a New Surgical Technique

Athanasios V Papavasiliou, Nikolaos Koukoulis, Christos Sinopidis

S64 Functional Outcomes After Arthroscopic Cell-Free Osteochondral Scaffold Surgery

Selda Başar, Zeynep Hazar, Mehmet Gem, Ulunay Kanatlı

16:00-16:30

COFFEE BREAK

16:30-17:00

LECTURE 30: New Developments in Femoral Osteotomy for Knee Disorders

Philipp Lobenhoffer

Chair: *Ahmet Sebik*

17:00-18:00

PANEL 13: Multiligament Injuries of the Knee

Chairs: *Hasan Tatari, Can Hürel*

Physical Examination and Diagnosis

Uğur Gönç

Decision Making and Graft Options

Kürşat Teker

Combined Posterolateral Injuries

John Gliatis

Combined Posteromedial Injuries

John Gliatis

HALL 2

07:30-08:40

ICL 7: Step by Step Meniscal Transplantation

Chairs: *Sven Scheffler, Uğur Haklar*

Indications and Patient Selection

Murat Bozkurt

Preoperative Planning

Uğur Haklar

Surgical Techniques

Sven Scheffler

Postoperative Follow-up

Selçuk Örsel

08:45-09:45

PANEL 9: Ankle Problems in Athletes

Chairs: *Ahmet Turan Aydın, Zekeriya Öztemur*

Talar Osteochondral Lesions

Önder Kılıçoğlu

Impingement Syndromes

Devrim Akseki

Tendon Problems

Tahir Öğüt

Instability

Mustafa Ürgüden

10:30-11:00

COFFEE BREAK

12:15-13:30

LUNCH

13:30-14:30

WORKSHOP **BIOMET®** Hall B - Level 1 Refer to Page 20

14:30-14:50

LECTURE 28: Hindfoot Arthroscopy

Ahmet Turan Aydın

Chair: *Mustafa Ürgüden*

14:50-16:00

FREE PAPERS 8

Chairs: *Alper Kaya, Gökhan Meriç*

S51 Functional, Clinical and Biomechanical Comparison of Anterior Cruciate Ligament Reconstruction with Anatomic Transtibial Tunnel Placement

*Eray Kılınç, Adnan Kara, Yunus Öç, **Haluk Çelik**, Savaş Çamur, Osman Tuğrul Eren*

S52 Effects of "Throwers Ten" Exercise Program on Pain and Function in Shoulder Impingement Syndrome: A Pilot Study

***Zeynep Hazar**, Gül Baltacı*

S53 Arthroscopic Repair of Horizontal Meniscus Tears by Vertical Sutures with Packing Technique

***Alper Kaya**, Tekin Kerem Ülkü, Barış Kocaoğlu, Hüseyin Arel Gereli, Burak Akan*

S54 Functional Outcomes of Primary Anterior Cruciate Ligament Reconstruction with Tibialis Anterior Allograft

*Selda Başar, **Enes Büyükaşar**, Zeynep Hazar, Baybars Ataoğlu, Ulunay Kanatlı*

S55 How Does Functional Soccer Training on Uneven Ground Affect Dynamic Stability of Lower Limbs in Young Soccer Players

***Marcin Plenzler**, Natalia Mrozińska, Anna Mierzwińska, Olga Korbolewska, Daria Mejnartowicz, Marcin Popieluch, Robert Śmigielski*

S56 Comparison of Ankle Proprioception Between Blind and Healthy Athletes

*Muhammet Özer, Haydar Kaynak, **Aziz Atik**, Mehtap Kaçmaz Şilil, Muammer Altun, Devrim Akseki*

S57 Prognostic Criteria in Traumatic Knee Dislocations: A Retrospective Study of 42 Cases

***Tuna Pehlivanoğlu**, Halil İbrahim Balcı, Mehmet Chodza, Önder İsmet Kılıçoğlu*

S58 Does Intra-articular Fracture Change the Lubricant Content of the Synovial Fluid

***Gökhan Polat**, Mehmet Erdil, Deniz Kara, Elif Kılıç, Abdurrahim Koçyiğit, İbrahim Tuncay*

16:00-16:30

COFFEE BREAK

16:30-17:30

PANEL 12: Nightmare of the Athlete

Chairs: *Bülent Zeren, Reha Akdal*

Hamstring Injuries

Haluk Hayri Öztekin

Osteitis Pubis

Bülent Zeren

Achilles Tendon Problems

Akın Turgut

Reinjury Anxiety

Hayriye Elbi

17:30-18:30

PANEL 15: How I went Abroad? What did I See? Then...

Chairs: *Halit Pınar, Mehmet Erduran*

Gazi Huri, Aydın Budeyri, Gökhan Meriç, Levent Sürer, Ersin Kuyucu

HALL 3

08:00-09:00

ICL 8: Decision Making for Sport Shoes and Foot Orthosis - Evaluation of the Foot

Chairs: *Nilgün Bek, Özgür Bozan*

To Stand Still!

Engin Şimşek, Nilgün Bek

09:00-09:20

LECTURE 21: To Look or See on the Sidelines

Burhan Uslu

Chair: *Haluk Hayri Öztekin*

09:20-09:50

PANEL 10: Risk Factors in ACL Injuries

Chairs: *İnci Yüksel, Metin Ergün*

Intrinsic Factors

Hayri Baran Yosmaoğlu

Extrinsic Factors

Seçkin Şenışık

09:50-10:15

LECTURE 25: Performance Profile, Physiologic Threshold and Tendency of the Athlete to Injury

Cengizhan Özgürbüz

Chair: *Volga Bayrakçı Tunay*

10:15-10:30

LECTURE 26: Proprioceptive Training After ACL Reconstruction (TUSYAD Proprioception Committee)

Defne Kaya

Chair: *Volga Bayrakçı Tunay*

10:30-11:00

COFFEE BREAK

11:00-12:15

ICL 9: Multidisciplinary Approach to Groin Pain in Athletes

Chairs: *Asım Baykan, Gürhan Dönmez*

Radiologist

Ali Türk

Sports Physician

Gürhan Dönmez

Orthopedic Surgeon

Asım Baykan

General Surgeon

Selman Sökmen

Physiotherapist

Serdar Arslan

12:15-13:15

LUNCH

13:15-14:30

ICL 10: Kinesiotaping

Chairs: *Gül Baltacı, Murat Tomruk*

Terminology and Physiology

Gül Baltacı

Upper Extremity

Nihan Özünlü Pekyavaş

Lower Extremity

Gül Baltacı

Evidence Based Studies

Volga Bayrakçı Tunay

14:30-16:00

FREE PAPERS 7

Chairs: *Nihal Gelecek, Ayşe Özden*

S40 Knee Muscle Strength Recovery in the Early Period After ACL Reconstruction

Gülcan Harput, *Hasan Erkan Kılınc, Hamza Özer, Gül Baltacı, Carl G. Mattacola*

S41 Which One Enhances Muscular Performance in ACL Reconstructed Subjects: Brace or Tape?

Gülcan Harput, *Burak Ulusoy, Ahmet Özgür Atay, Gül Baltacı*

S42 Anterior Cruciate Ligament Quality of Life Questionnaire: Turkish Translation with Reliability, Validity, and Responsiveness Evaluation

Gizem İrem Kınıklı, *Derya Çelik, Özgür Ahmet Atay, İnci Yüksel*

S43 Comparison Between Strength of Muscles Rotating the Knee In Healthy Individuals and Patients One Year After an ACL Reconstruction

Marcin Popieluch, *Robert Śmigielski, Dariusz Straszewski, Marcin Plenzler, Michał Staniszewski*

S44 Effects of Extracorporeal Shock Wave Therapy on Subacromial Impingement Syndrome

Nur Selin Öztürk, Nihal Gelecek, Sema Savcı

S45 Effects of Proprioceptive Neuromuscular Facilitation and Mulligan Concepts on Pain, Functional Level and Quality of Life on Subacromial Impingement Syndrome

Sinem Karakuş, Nihal Gelecek, Sevgi Sevi Yeşilyaprak

S46 Effects of Different Isokinetic Training Programs on Hamstring/Quadriceps Ratio and Proprioception in Patients with Patellofemoral Pain

Hande Güney, *İnci Yüksel, Defne Kaya, Mahmut Nedim Doral*

S47 MRI Evaluation of Patella Alignment Before and After Anatomic ACL Reconstruction Undergoing Unified Rehabilitation Programme Introduced by CMC Physical Therapy Team

Dariusz Straszewski, Marcin Plenzler, Joanna Szczepaniak, Robert Śmigielski, Beata Ciszowska-Łysoń, Marcin Popieluch, Szymon Kopko

S48 Influence of Pectoralis Minor and Upper Trapezius Muscle Tightness in Scapular Dyskinesia

Sevgi Sevi Yeşilyaprak, Ertuğrul Yüksel, Serpil Kalkan

S49 Core Stabilization Training After Anterior Cruciate Ligament Reconstruction

Özge Çınar Medeni, *Kezban Bayramlar, Gül Baltacı, İbrahim Yanmış*

S50 Do Body Mass, Body Mass Index and Body Fat Ratio Have an Effect on Proprioception?

Esra Ateş Numanoğlu, *Filiz Can, Zafer Erden*

16:00-16:30

COFFEE BREAK

16:30-16:50

LECTURE 31: Scapular Dyskinesia and Its Treatment

Sevgi Sevi Yeşilyaprak

Chair: *Nazan Tuğay*

16:50-17:50

PANEL 14: Life-Time Sports

Chairs: *Nevin Ergun, Çetin İşleğen*

Exercise in Chronic Diseases

Mehtap Malkoç

Osteoporosis and Exercise

Metin Ergün

Osteoarthritis and Exercise

Nihal Gelecek

Anti-Aging Exercise

Oğuz Yüksel

SATURDAY, 27 SEPTEMBER 2014

HALL 1

- 07:30-09:00 ICL 11: Basic Principles of ACL Reconstruction: Update**
Chairs: *Bülent Aksoy, Egemen Turhan*
- | | |
|--|--------------------------|
| Patient Selection, Indications and Timing of Surgery | <i>Bülent Aksoy</i> |
| Graft Selection | <i>Ahmet Uğur Turhan</i> |
| Tunnel Preparation | <i>Emin Bal</i> |
| Patellar Tendon | <i>Sefa Müezzinoğlu</i> |
| Hamstring | <i>Hamza Özer</i> |
| Partial Ruptures | <i>Burak Demirağ</i> |
| Postoperative Rehabilitation | <i>Selmin Gülbahar</i> |
- 09:00-09:30 LECTURE 32: Treatment of Malunions Around the Knee** *Philipp Lobenhoffer*
Chair: *Abdullah Göğüş*
- 09:30-10:00 LECTURE 35: Indications for Osteotomy, Unicompartmental and Total Knee Replacement in Knee Osteoarthritis** *Philipp Lobenhoffer*
Chair: *Abdullah Göğüş*
- 10:00-10:30 COFFEE BREAK**
- 10:30-11:45 PANEL 16: Practical Approach to Revision Total Knee Arthroplasty**
Chairs: *İlker Çetin, Fatih Karaaslan*
- | | |
|--|-----------------------|
| Surgical Approach and Removal of the Components | <i>Abdullah Göğüş</i> |
| Reconstruction of the Bone Defects | <i>Ertuğrul Şener</i> |
| Reconstruction of the Joint Line and Soft Tissue Balance | <i>İrfan Öztürk</i> |
| Reconstruction of the Extensor Mechanism | <i>Hakan Boya</i> |
| Effect of Surgery to Postoperative Rehabilitation | <i>Burak Beksaç</i> |
- 11:45-12:30 ADJOURN AND AWARD CEREMONY**

HALL 2

07:30-08:45

ICL 12: Unicompartmental Knee Arthroplasty

Chairs: *İbrahim Tuncay, Mehmet Erduran*

Indications and Patient Selection

Mehmet Erduran

Fixed Bearing Basic Technique

Roland Becker

Mobile Bearing Basic Technique

Meriç Ünal

Complications and Solutions

İbrahim Tuncay

Revision

İlker Çetin

09:00-09:30

Non-Biologic Surgical Alternatives in Degenerative Knee

Chair: *Akif Güleç*

LECTURE 33: Robotic Surgery in Partial Knee Arthroplasty

Uğur Haklar

LECTURE 34: Resurfacing Arthroplasty

Tahsin Beyzadeoğlu

10:00-10:30

COFFEE BREAK

10:30-11:45

ICL 13: Osteotomies Around the Knee

Chairs: *İrfan Esenkaya, Bora Bostan*

Patient Selection and Planning

Cemil Kayalı

Open Wedge Proximal Tibial Osteotomy

İrfan Esenkaya

Closed Wedge Proximal Tibial Osteotomy

Hüseyin Serhat Yercan

Dome Osteotomy

Elcil Kaya Biçer

Femoral Osteotomy

Atilla Kocabaş

POSTER / POSTERS



POSTER

POSTERS

P04 MEDIAL OPENING WEDGE HIGH TIBIAL OSTEOTOMY FIXATION WITH SHORT PLATE WITHOUT ANY GRAFT, SYNTHETIC MATERIAL OR SPACER

Faik Türkmen, Cem Sever, Burkay Kutluhan Kaçıra, Mehmet Demirayak, Mehmet Ali Acar, Serdar Toker

P06 MICROFRACTURES AND PLATELET RICH PLASMA (PRP) FOR THE TREATMENT OF INJURIES CARTILAGE: ANALYSIS OF THE RESULTS

Pietro Zedde, Fabio Del Prete, Federico Mela, Francesco Antonio Masia, Andrea Fabio Manunta

P07 TENORRAPHY OF THE ACHILLES TENDON AND PLATELET RICH PLASMA (PRP)

Pietro Zedde, Federico Mela, Fabio Del Prete, Andrea Fabio Manunta

P08 COMPARISON BETWEEN DIFFERENT FEMORAL BONE REMODELLING PATTERNS AFTER ACL RECONSTRUCTION IN PATIENTS OVER 40 YEARS OF AGE: CAT ANALYSIS

Pietro Zedde, Fabio Del Prete, Federico Mela, Francesco Antonio Masia, Andrea Fabio Manunta

P10 EPICONDYLITIS BAND OR CORTICOSTEROID INJECTION FOR LATERAL EPICONDYLITIS TREATMENT?

Ertuğrul Allahverdi, Tülay Diken Allahverdi, Uğur Türkteş

P13 DOES OPEN WEDGE PROXIMAL TIBIAL OSTEOTOMY REALLY AFFECT TIBIAL SLOPE AND PATELLAR HEIGHT?

Olca Akdeniz, Cemal Dinçer, Hasan Tatari

P15 TOTAL KNEE ARTHROPLASTY INFECTED BY BRUCELLA MELITENSIS: SEPTIC LOOSENING AND LONG-TERM RESULTS OF TWO-STAGE REVISION KNEE ARTHROPLASTY

Fatih Karaaslan, Musa Uğur Mermerkaya, Sinan Karaoğlu

P18 ORIGINAL REHABILITATION PROGRAMME AFTER ANATOMICAL ACL RECONSTRUCTION BASED ON MRI EVALUATED GRAFT REMODELLING

Marcin Plenzler, Dariusz Straszewski, Beata Ciszowska-Lysoń, Robert Śmigiełski, Marcin Popieluch

P19 SURGICAL TREATMENT OF SYNOVIAL CHONDROMATOSIS OF THE LONG BICEPS TENDON SHEATH: A CASE REPORT

Burak Abay, Neslihan Aksu, Ramazan Soydan, Ertuğrul Ercan, Cengiz Kopuz

P20 ISOLATED PCL AND ACL AVULSION FRACTURES OF THE KNEE: A CASE REPORT

Özgür Baysal, Engin Eceviz, Fevzi Sağlam, Nurzat Elmali

P21 FEMORAL KONDİLİN KORONAL KIRIĞININ KAYNAMAMASI; YARALANMADAN 14 YIL SONRA YAPILAN CERRAHİ TEDAVİ SONUCU

Bora Şerifhan Alpaydın

P22 MID-LONG TERM RESULTS IN THE ARTHROSCOPIC SELECTIVE CAPSULAR RELEASE AND MANIPULATION TREATMENT OF FROZEN SHOULDER

Haluk Çelik, Mustafa Faik Seçkin, Adnan Kara, Savaş Çamur, Eray Kılınç, Şenol Akman

P23 ARTHROSCOPIC LATERAL RETINACULAR LIGAMENT RELEASE IN PATELLOFEMORAL PAIN SYNDROME: COMPARING THE TECHNIQUES OF ELECTROCAUTERY OR SCISSORS

Teoman Başaran, Ahmet Özgür Atay, Mahmut Nedim Doral, Pınar Özge Başaran

POSTER

POSTERS

P24 HOW DOES DELAYED EXCISION OF SYMPTOMATIC MEDIAL PLICA AFFECT THE OUTCOMES?

Hasan Bombacı, Mehmet Kuyumcu, Tamer Coşkun, Emre Kaya

P25 ORIGINAL FUNCTIONAL REHABILITATION PROGRAMME BASED ON HEALING PHYSIOLOGY AFTER RECONSTRUCTION OF ARTICULAR CARTILAGE IN KNEE JOINT

Volodymyr Guliyani, Marcin Plenzler, Dariusz Straszewski, Marcin Paśnik, Olga Korbolewska, Wojciech Suszczyński, Robert Smigajski

P26 DIFFERENT CYCLIC MECHANICAL LOADING PATTERNS ALTER EXPRESSION OF OSTEOGENIC MARKERS IN A FIBROBLAST-OSTEOBLAST CO-CULTURE MODEL RESEMBLING THE TENDON-TO-BONE INTERFACE AFTER AUTOLOGOUS ACL RECONSTRUCTION

Philip Peter Roessler, Johannes Struewer, Jürgen Rudolph Paletta, Turgay Efe

P27 IS THERE ANY RELATIONSHIP BETWEEN THE GRADE OF MUCOID DEGENERATION OF TORN MENISCI AND BIOCHEMICAL MARKER LEVELS IN SYNOVIAL FLUID?

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P04 MEDIAL OPENING WEDGE HIGH TIBIAL OSTEOTOMY FIXATION WITH SHORT PLATE WITHOUT ANY GRAFT, SYNTHETIC MATERIAL OR SPACER

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OBJECTIVES: Medial opening-wedge high tibial osteotomy (MOWHTO) is an effective surgical procedure for patients who have medial compartmental osteoarthritis of the knee with varus deformity of the limb. The abnormal load on the medial compartment of the knee relocates to the lateral compartment with this procedure. A gap occurs on the proximal tibia while providing adequate correction. Filling this gap with bone grafts or synthetic materials has gained wide acceptance for preventing bone union problems or osteotomy site collapse. The aim of this study is to report our results of MOWHTOs performed without any bone graft or any other synthetic materials.

METHODS: We evaluated 41 MOWHTOs which have been performed between 2009 and 2012 with no use of any grafts or synthetic materials and spacer. Age of the patients ranged from 43 to 67. Thirtyfive of the patients were female and 3 of them were male. The follow-up time was 6 months.

RESULTS: There were not any non-union or loss of correction. The mean bone union time was 12,8 weeks. Any major complication was not occurred.

CONCLUSION: The results of our study has shown that we can achieve satisfactory and good results by performing MOWHTO procedure without using any bone grafts or synthetic materials and spacer.

KEYWORDS: Graftless Fixation, High Tibial Osteotomy, Medial Opening Wedge, Short Plate

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PO6 MICROFRACTURES AND PLATELET RICH PLASMA (PRP) FOR THE TREATMENT OF INJURIES CARTILAGE: ANALYSIS OF THE RESULTS

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OBJECTIVES: In the last years different surgical techniques for the treatment of articular cartilage injuries have been proposed, which can be divided into two main groups according to their action mechanism: restorative techniques based on spinal cord stimulation including abrasion arthroplasty, subchondral, microfracture and nanofracture, and chondral restoration techniques such as autologous osteochondral grafts (OCT), autologous chondrocyte transplantation and the use of staminal cells or PRP associated to scaffolds. Among all these techniques microfracture are the most used by orthopedic surgeons as they are simple, they need no special instruments and have low costs. The results achieved are good even if the restoration tissue growing in the defects is made up of fibrocartilage, it contains a great amount of type I collagen and a low concentration of proteoglycans.

METHODS: In recent years we have chosen to treat selected cartilage injuries associating the microfracture with platelet concentrate infiltration, matching in this way a conventional and effective restorative technique with an innovative regenerative technique. For the study, 64 patients with III-IV chondral injuries have been selected, ICRS classification, located in the medial femoral condyle in load region and less than 2.5mm wide. They all were single and not associated to meniscal or ligamentous injuries or particulare axial deviations. For 26 out of 64 patients microfractures were associated to PRP intra articular infiltrations once a week for 3 weeks.

RESULTS: For all the patients the treatment response was evaluated after 6, 12 and 24 months, both from a symptomatological and functional point of view, using VAS and IKDC subjective score. The post surgery clinical evaluations after 6 and 12 months have shown the best results in those patients treated associating the two methodologies compared with patients treated exclusively with microfractures. The evaluation with VAS scale shown at 6 and 12 months of follow up, respectively, a mean value of 3,6 and 4,5 in the group treated only with microfracture and a mean value of 1,8 and 2,5 in the group treated with both microfracture and PRP. Similarly, the evaluation with subjective IKDC scale at 6 and 12 months of follow-up shown, respectively, a mean value of 78 and 73 in the group treated only with microfracture and mean value of 87 and 82 in the group treated with both microfracture and PRP. After 24 months, however, the difference between the two groups decreased so that the patients reached substantially the same results, VAS scale 5 versus 4,3, IKDC score 63 versus 65.

CONCLUSION: On the basis of our data, we can state that the association of these two techniques for the treatment of cartilage injuries represents a valid methodology compared with the single microfracture in that it reduces the local inflammation, it improves the pain symptomatology and hastens the return to activities of daily living. Owing to the recent introduction of this methodology, however, clinical studies with long-term follow-up are necessary.

KEYWORDS: Cartilage, microfracture, PRP

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PO7 TENORRAPHY OF THE ACHILLES TENDON AND PLATELET RICH PLASMA (PRP)

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OBJECTIVES: The rupturing of the Achilles tendon is today a pathology ever more frequently presented due to the rise in recent years of people participating in sporting activities. The elected operation is the tenorrhaphy performed using open, mini-open (Achilon) or mini-invasive percutaneous (Ma-Griffith, Tenolig) techniques. Treatment goals for Achilles tendon ruptures include normalizing the muscle-tendon length and tension, and optimizing function and strength of the whole gastrocnemiussoleus complex. However, studies available on this injury are not in agreement on the best way to achieve these goals. The treatment of Achilles tendon rupture must be based, regardless of the method chosen, on the knowledge and understanding of the biological repair processes that can be implemented by the use of Platelet Rich Plasma (PRP) in patients treated surgically. This approach offers several advantages, enabling a faster recovery and reducing the chance of recurrence without any side effects.

METHODS: Between February 2008 and December 2011, 32 patients with Achilles tendon rupture were treated with non-absorbable end-to-end suture. In all patients, the time elapsed between rupture and surgery was two to four days. In 21 cases, PRP was used, and in one patient with a simultaneous bilateral rupture it was decided to apply the platelet gel only to the right limb for a comparative study. During the post-operative period, patients followed a standard rehabilitation protocol. In all patients, response to treatment was evaluated from both a symptomatologic (VAS scale) as well as a functional point of view, using the VISA-A scale (Victorian Institute of Sports Assessment-Achilles), a valid and reliable index for evaluating the clinical severity of Achilles tendinopathy through the analysis of pain, applicable to both normal daily activities and sports.

RESULTS: In all patients who underwent tenorrhaphy complete functional recovery was achieved. In cases where the PRP approach was used, the recovery process was quicker, as evidenced by the fact that these patients regained mobility and returned to their habitual sports activities more rapidly. In the patient with bilateral rupture, the wound healed earlier and with better restitutio ad integrum in the right limb compared to the left one, as demonstrated by the far superior results from isokinetic, stabilometric and functional tests. At a distance of 180 days from the surgery, the patients were assessed with the VISA-A questionnaire. All stages of the regeneration process can be enhanced and improved by the application of PRP. The normal healing processes of tissues entail a complex cellular and molecular response, mediated by a wide range of growth factors and cytokines that are released by the plasma and the α -granules of platelets. The application of PRP can therefore be used for modulation of cell activity in various stages of tissue regeneration.

CONCLUSION: In our opinion, the healing process should be reinforced, more than accelerated. In fact, to complete the process of protein synthesis fibroblasts still need about three weeks, before the formation of collagen and other protein constituents of connective tissue can take place. When degenerate tissue and poor biological reaction prevail, the application of PRP at an intratendinous level, bringing to the lesion site the biological media needed for the normal regeneration process, can be extremely useful in patients who have specific functional demands. This approach can ensure a more rapid functional recovery and reduce risk of relapse in athletes with limited additional cost.

KEYWORDS: Achilles Tendon, PRP, Tissue Regeneration

POSTER BİLDİRİLER DEVAMI

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P08 COMPARISON BETWEEN DIFFERENT FEMORAL BONE REMODELLING PATTERNS AFTER ACL RECONSTRUCTION IN PATIENTS OVER 40 YEARS OF AGE: CAT ANALYSIS

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OBJECTIVES: Significant advances in anterior cruciate ligament reconstruction have been made over the years. Currently, different fixation techniques are available, including staples, softtissue washers, buttons, interference screws and cross-pins. These fixation techniques should withstand early physiological forces and facilitate biological graft incorporation. Numerous studies exist comparing these techniques with regard to their initial fixation strength, biocompatibility, and risk of graft laceration. Advantages of bioabsorbable pins include the ability to perform postoperative imaging without metallic artifacts, excellent mechanical strength and easier revision without the need for hardware removal. The characteristics of the reactive bone tissue generated around the graft vary depending on the type of ligament. The aim of the present study was to analyze the structure of the reactive bone after ACL reconstruction with double semitendinosus and gracilis tendon graft (DTSG) and ligament advanced reinforcement system (LARS), CAT was used in order to evaluate how the behavior of the bone differs depending on the type of ligament. We did not consider the patellar tendon because its anchorage is facilitated by the bone-bone interface.

METHODS: Twenty-two patients undergoing ACL reconstruction either by double semitendinosus and gracilis tendon graft (DTSG), or ligament advanced reinforcement system (LARS) fixed at the femur with two biodegradable pins (RIGID FIX), were evaluated. Instrumental evaluation was performed, in a period between 24 and 36 months after surgery, using a CAT scan with a 1 mm thick multi layered image, through which we studied bone reaction and pin reabsorption. CAT scanning, instead of MRI, was selected as the preferred imaging method because of its superiority in evaluating bone quality, pin degradation and bony replacement of the pin tracts. Preoperative and postoperative evaluation was based on the International Knee Documentation Committee (IKDC) criteria. The evaluation for instability was based on KT-2000 arthrometer measurement with maximal manual displacement, the Lachman test and pivot shift test.

RESULTS: The CAT scan, which mainly focused on the area of the femoral tunnel, showed an increase in spongy bone out of the socket in the surgery performed with LARS, while in patients treated with DTSG, the bone retained the normal structural characteristics of density of the femoral meta-epiphysis. The CT scan also documented a higher rate of pin biodegradation in reconstruction with LARS. The results analysis showed different patterns of response based on the type of ligament. A bone reaction for mainly mechanical purposes, evidenced by a circumferential fibrous ring, was observed in all patients. Additionally, a bone reaction for biological purposes, characterized by an increase in the spongy tissue associated with a reduction in bone density and a faster reabsorption of pins, was found in patients treated with LARS.

CONCLUSION: Several structural aspects can be noticed in the newly-formed reactive bone which generates itself in response to the different kinds of ligaments used in LCA reconstruction. 24-36 months after the operation the osseous reabsorption around the synthetic graft determines the presence of an area of low osseous consistency and therefore a fragile area at the fixing point of the ligament. Consequently, in choosing a synthetic ligament the patient's level of activity, lifestyle and the quality of their bone have to be considered.

KEYWORDS: ACL reconstruction, biodegradable Pins, CT Scan

POSTER BİLDİRİLER DEVAMI

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P10 EPICONDYLITIS BAND OR CORTICOSTEROID INJECTION FOR LATERAL EPICONDYLITIS TREATMENT?

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OBJECTIVES: Comparison of the short- and medium-term results of the epicondylitis band and corticosteroid and local anesthetic injections for lateral epicondylitis.

METHODS: This was a retrospective and comparative study related to acute lateral epicondylitis treatment. The patient groups named A and B received two different treatments. There were 151 patients in Group A and 205 patients in Group B. Group A received the epicondylitis band and Group B corticosteroid and local anesthetic injections. Both groups were also given stretch exercises and nonsteroidal anti-inflammatory drugs. Patients were checked at week 1, 4, 12, and 24 and the Quick DASH scoring was used on week 12 and 24.

RESULTS: On the 3rd month of treatment, Group A showed recovery rates of moderate, good and full in 18.5%, 32.5% and 30.5% respectively while these rates were 33.2%, 13.7% and 25.4% in Group B. The same rates at the end of month 6 were 17.2%, 41.1% and 17.2% in Group A and 28.3%, 1% and 17.2% in Group B.

CONCLUSION: Combined treatment (physical therapy, nonsteroidal anti-inflammatory drugs) with an epicondylitis band was more effective than combined treatment with steroid and local anesthetic injections in acute lateral epicondylitis.

KEYWORDS: Acute Lateral Epicondylitis, Epicondylopathy, Steroids, Quick DASH Score, Epicondylitis Band.

P13 DOES OPEN WEDGE PROXIMAL TIBIAL OSTEOTOMY REALLY AFFECT TIBIAL SLOPE AND PATELLAR HEIGHT?

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OBJECTIVES: Open wedge proximal tibial osteotomy has gained popularity over recent years. This technique has several advantages over lateral closed wedge osteotomy, like lack of any need for fibular osteotomy and freedom from peroneal nerve complications, easier and more precise correction, no limb shortening and easier access for a probable total knee arthroplasty. However it was shown that open wedge osteotomy reduced patellar height and increased sagittal tibial slope which can cause patellofemoral problems. The aim of the study was to evaluate the alteration in angle of posterior slope of the tibia and the degree of patellar height following medial opening wedge proximal tibial osteotomy in our patients.

METHODS: 26 females and 7 males, with a mean age of 48, who underwent medial opening wedge proximal tibial osteotomy were included into the study. In all operations, the preoperative measured varus angle was overcorrected to between 5-8° valgus. The posterior slope of the tibia was determined by the proximal tibial anatomical axis and patellar height was measured retrospectively by the Caton index on the pre- and postoperative radiograms at the end of the second month.

RESULTS: Preoperatively, on the standing orthorontgenograms, the mean mechanical axis deviation was 12,36° (8-20) and the mean posterior tibial slope on the sagittal view was 16,24° (10-23) whereas the mean postoperative tibial slope was 17,85° (6-25). Using paired samples test, this increase was statistically significant ($p=0.049$). Preoperative mean Caton index was 1,35 (1,01-1,92) whereas the postoperative average was 1,73 (1,11-2,76). There was also a statistical significant increase between the pre-and postoperative values ($p<0.001$) with paired samples test. There was a positive correlation between preoperative mechanical axis deviation and postoperative slope angle ($p=0,014$) but there was no correlation between preoperative mechanical axis deviation and postoperative patellar height.

CONCLUSION: As a conclusion, it can be said that tibial slope and patellar height are strongly affected by open wedge high tibial osteotomy and a probable knee arthroplasty operation can become harder for these patients.

KEYWORDS: Patellar height, proximal tibial osteotomy, tibial slope

P15 TOTAL KNEE ARTHROPLASTY INFECTED BY BRUCELLA MELITENSIS: SEPTIC LOOSENING AND LONG-TERM RESULTS OF TWO-STAGE REVISION KNEE ARTHROPLASTY

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OBJECTIVES: Brucella infection associated with arthroplasty is a rare event. We herein present the long-term results of two-stage revision knee arthroplasty due to TKA infection by Brucella melitensis.

METHODS: A 62-year-old man presented with a 4-month history of night sweats, high body temperature, and right knee pain in 2003. Two years previously, he had undergone a right TKA for treatment of gonarthrosis. Upon examination, the knee appeared swollen, warm, and sore, and a sinus tract formation had developed at the incision area. Bacteriologic culture taken from the sinus tract discharge revealed B. melitensis. The patient's erythrocyte sedimentation rate (ESR) was 83 mm/h, C-reactive protein (CRP) level was 12.38 mg/L, and blood leukocyte concentration was 9425/mm³. Plain radiography confirmed septic loosening. A two-stage revision TKA was planned to correct the septic loosening of the implant. The first stage involved removal of the infected prosthesis and debridement of the remaining cement and necrotic tissue. Removal of the prosthetic components and cement and application of an antibiotic-loaded spacer (teicoplanin-impregnated) were also performed in the first stage. Oral rifampicin (900 mg) and doxycycline (300 mg) were administered daily for 12 weeks postoperatively. At the end of the antibiotic therapy, the patient was seen as an outpatient, and his ESR, CRP level, and antibody titer had decreased toward normal values. Finally, prosthetic revision was performed in the second stage of the TKA.

RESULTS: Ten years following surgery, the patient had returned to full activities of daily living, described no knee pain, and was very satisfied with the outcome. No abnormalities associated with the femoral, tibial, or patellar components were observed on plain radiography 10 years following surgery. The results of a Brucella agglutination test at that time were negative.

CONCLUSION: Osteoarticular disease related to Brucella remains a problem in endemic regions. Brucellosis should be kept in mind as a differential diagnosis of prosthetic joint infections, especially in patients with a history of brucellosis and exposure to possible sources of the bacteria. We believe that two-stage revision arthroplasty is the first-line treatment of a loosened TKA infected with B. melitensis. In addition, if a systemic Brucella infection is identified, the patient should be managed with two-stage revision surgery.

KEYWORDS: Brucella, Arthroplasty, Two-stage revision

P18 ORIGINAL REHABILITATION PROGRAMME AFTER ANATOMICAL ACL RECONSTRUCTION BASED ON MRI EVALUATED GRAFT REMODELLING

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OBJECTIVES: The study has been organised in order to design the rehabilitation program allowing for the complete functional post-surgical recovery of the limb, that would not affect the remodelling process of the transplanted graft observed and evaluated on MRI imaging. The main reason for changing the rehabilitation protocol was the 14 months of observation of the MRI images (a series of 9 MRIs performed over a two year period) among the patients after ACL reconstruction, in whom the adverse characteristics in remodelling of the graft were observed in line with the implementation of the traditional rehabilitation programme.

METHODS: A 23 years old patient, a professional hi-rank skateboarder, took part in this pilot study. He had a torsion injury of the left knee joint. The main concepts of the rehabilitation programme were: functional training in CKC that would involve muscles of the entire kinetic chain of the operated limb; the co-contraction training under the axial load, active extension training, the avoidance of static flexors' stretching for at least 24 weeks after the surgery, no passive movements while exercising, the use of posterior translation of the tibia while doing the exercises, and no knee joint extensors strengthening activities in OKC for at least six months after the surgery. In order to evaluate the remodelling of the graft, seven oblique axial MR images (DOA) were taken, on which the graft's cross-sectional area was measured. The MRIs were performed respectively: in the second, sixth, and twelfth week; then in the fourth, sixth, and ninth month, and, finally a year after the surgery). The angle of the graft and PCL was also measured. Additionally, the quality of tendon signal was assessed. For the functional evaluation, isokinetic and isometric tests of the knee extensor and the flexor muscles, along with the tibial rotator functions were performed using Humac Norm device. Postural stability based on COP parameter was established, as well, using the stabilometric platform HUR. For the dynamic stabilography assessment Biodex Balance System device was used. In order to indicate the subjective functional evaluation by the patient, the Lyshom scale and IKDC questionnaires were used.

RESULTS: The MRI 12 months after the surgery showed good tendon signal, and no significant changes characteristic for the anterior subluxation of the tibia were observed. In the functional evaluation, very good values of flexors and extensors muscle strength were recorded. These values were comparable to those achieved by the opposing limb. The strength of the left knee rotator muscles was comparable to that of the opposite limb. Additionally, very good stability index has been recorded in, both, static and dynamic conditions. The results the two limbs were comparable. Patient's subjective evaluation was also assessed to be on a very good level (the results of the IKDC questionnaires were 98,85 and 100/100 on the Lyshom's scale).

CONCLUSION: The original rehabilitation programme in CMC seems to be a valuable protocol conditioning the return to sport activities without disrupting the the remodelling process of the graft. The case described is a part of a bigger project which includes the total of over 30 patients.

KEYWORDS: Acl reconstruction, acl rehabilitation protocol, acl graft remodelling, MRI after ACL reconstruction

P19 SURGICAL TREATMENT OF SYNOVIAL CHONDROMATOSIS OF THE LONG BICEPS TENDON SHEATH: A CASE REPORT

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OBJECTIVES: Primary synovial chondromatosis (PSC) is a rare benign neoplasm that is affecting diarthrodial joints. The reported cases of PSC in the literature are mostly localized in the knee, followed by the hip, elbow, wrist and shoulder. We report the surgical treatment of a rare case of PSC localized in the long biceps tendon sheath.

METHODS: A 66-year-old woman presented severe pain in her left shoulder without any traumatic event. The pain was rated on Visual analog scale (VAS) as 4 to 7. At the physical examination, a palpable mass was found medial to the bicipital groove of the left shoulder. Functional examination of the left shoulder revealed painful limitation at 150 abduction, at 130 forward elevation and at 40 external rotation. Constant Murley Score was measured as 65. A magnetic resonance image (MRI) revealed the presence of 2x2x1.8 cm lesions within the biceps tendon sheath, rotator cuff tear and a bone cyst in the great tubercle. The treatment of choice was the open surgical treatment with excision of the lesion, curetage and spongiuous allografting of the bony cyst and repairing the rotator cuff with the two suture anchors. The histological examination was consistent with PSC without any malignant transformation. The shoulder was immobilized postoperatively for 2 days in a sling. Immediate passive ROM exercises were started at third day for 6 weeks.

RESULTS: At the 6 week- follow-up, the patient achieved full symmetric restoration of motion. She had returned to full activity. Visual analog scale was rated 0 to 1 and Costant Murley Score was measured as 92. Functional examination of the left shoulder reveled 170 of abduction, at 160 forward elevation and at 40 external rotation. At 1-year follow-up, clinical findings were unremarkable, with no sign of recurrence.

CONCLUSION: PSC is a benign, idiopathic lesion of the synovial membranes of the diarthrodial joints. PSC is observed rarely in extraarticular shoulder involvement. Although the diagnosis of PSC is often clear with the results of radiological and intraoperative findings, it needs to be assured histologically. Surgical treatment appears logical avoiding the risk of malignant transformation, the possible damage of the lesion to anatomical structures and fuctional disability as in the presented patient.

KEYWORDS: Primary synovial chondromatosis, shoulder. biceps tendon sheath

P20 ISOLATED PCL AND ACL AVULSION FRACTURES OF THE KNEE: A CASE REPORT

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OBJECTIVES: Isolated both PCL and ACL avulsion fractures are a rare condition. A 40 year old woman had both PCL and ACL avulsion fracture due to a car crash. These fractures often have a subtle appearance at conventional radiography. Advanced imaging modalities, particularly CT and MRI are helpful to diagnose correctly and define the extent of damage. The aim of the study was point out this rare injury. We diagnosed this patient who had both PCL and ACL avulsion fractures. In the literature only a few case is reported. We think that these fractures are not recognised in Emergency Department. If a patient is brought to the ED with high-velocity trauma, bone and soft tissue are examined carefully and if necessary advanced imaging modalities should be applied.

METHODS: The PCL avulsion fracture was fixed with a cancellous screw by a posterior approach and ACL avulsion fracture was fixed pull-out suturing technique with arthroscopically assisted treatment at the same operation 10 days later after trauma. The knee was immobilized at 20° flexion. Isometric knee, hip and ankle exercises were started immediately. Six weeks later after operation active range of motion exercises and partial weight-bearing were continued. In the third month full weight bearing was allowed and full range of motion was achieved.

RESULTS: Both PCL and ACL avulsion fractures were successfully treated , and discharged from the hospital.

CONCLUSION: Although the knee injuries are frequently seen, Both PCL and ACL avulsion fractures are a rare condition. First of all diagnosing avulsion fractures are needed suspicion. Secondly physical examination and radiological modalities especially magnetic resonance imagination should be applied. Finally both early surgical repair and suitable rehabilitation are the key to good outcomes in these injuries.

KEYWORDS: ACL Avulsion Fracture, Advanced Imaging Modalities, PCL Avulsion Fracture, Sutures Pull-Out Technique

POSTER BİLDİRİLER DEVAMI

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P21 FEMORAL KONDILIN KORONAL KIRIĞININ KAYNAMAMASI; YARALANMADAN 14 YIL SONRA YAPILAN CERRAHİ TEDAVİ SONUCU

Bora Şerifhan Alpaydın

Karşıyaka Devlet Hastanesi, Karşıyaka, İzmir

AMAÇ: Femoral kondilin koronal kırıklarının konservatif tedavisinin kötü sonuçlandığı unutulmamalı. Anatomik redüksiyon internal fiksasyon her zaman için bu kırıklarda birinci seçenek olmalı. Yaralanma süresinin 14 yıl gibi uzun bir süre olmasına ve hastanın 55 yaşında olmasına rağmen eklem koruyucu cerrahi tercih edildi.

YÖNTEM: 55 yaşında 14 yıl önce trafik kazası sonucu sol humerus, sol femur kondil kırığı, seri kot kırıkları geçirmiş ve yoğun bakımda takip edimiş olan hastanın kırıkları konservatif yöntemlerle tedavi edilmiş. Düşme sonucu 90 derece fleksiyon kontraktürü ile acil servise başvuran hastaya sol femur lateral kondil koronal kırık kaynamaması tanısı kondu. Letenneur sınıflamasına göre tip 2a olarak değerlendirildi. Serbest parça tazelandikten sonra 2 adet 5mm kanüllü, 2 adet 4.5 mm çift kompresyon vidası ile internal tespit uygulandı.

BULGULAR: Ameliyat sonrası yüklenme verilmeden menteşeli dizlik ile çift koltuk değneği verilerek mobilize edildi. Üçüncü haftada tek koltuk değneği ve kısmi yüke geçildi. Altıncı haftada dizlik çıkarıldı tam yüke geçildi 0-130 derece hareket genişliğine ulaşıldı. Klinik ve radyografik tam kaynama üçüncü ayda görüldü.

SONUÇ: Literatürde Hoffa kırığı ile ilgili başvuru kitaplarında ideal tespit yöntemi belirtilmemiştir. Kronik vakalarda tespit için eklem içinden yapılan kırık içine gömülen tespit vidalarının kullanılmasının erken yük ve rehabilitasyona izin verdiğini düşünmekteyim.

ANAHTAR KELİMELER: Femoral kondil, Hoffa kırığı, internal fiksasyon

P22 MID-LONG TERM RESULTS IN THE ARTHROSCOPIC SELECTIVE CAPSULAR RELEASE AND MANIPULATION TREATMENT OF FROZEN SHOULDER

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OBJECTIVES: In this study we aimed to present mid-long term functional outcomes of patients who underwent arthroscopic selective capsular release and manipulation with a diagnosis of frozen shoulder refractory to conservative treatment.

METHODS: Between 2006 and 2012, 32 patients presented to our clinic with the diagnosis of frozen shoulder and 22 of 24 shoulder were included in the study who came to their last follow-ups were treated with arthroscopic selective capsular release and manipulation. Functional results were analyzed with constant shoulder score. The mean follow-up time was 4.3 years (range 1-7 years).

RESULTS: We detected an average increase in passive range of motion in flexion 72°, abduction 90°, abduction-internal rotation 33°, and abduction-external rotation 38°, adduction-external rotation at 37° compared to the preoperative findings of the patients. Constant shoulder score was increased by average of 44 points after surgery. Eighteen (82%) patients were satisfied with the operation. Three of four patients' complaints were not resolved who have treatment resistant diabetes mellitus.

CONCLUSION: Frozen shoulder is one of the most well-known causes of shoulder pain and disability. Although surgery has a good rate of success it does not help in all cases. Unsatisfactory results may be experienced in patients who have diabetes mellitus in the etiology.

KEYWORDS: Arthroscopy, frozen shoulder, surgery

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P23 ARTHROSCOPIC LATERAL RETINACULAR LIGAMENT RELEASE IN PATELLOFEMORAL PAIN SYNDROME: COMPARING THE TECHNIQUES OF ELECTROCAUTERY OR SCISSORS

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OBJECTIVES: Arthroscopic lateral retinacular release in patellofemoral pain syndrome Comparing the amount of hemorrhage and times of release between electrocautery and a new techniques for arthroscopic lateral release with scissors

METHODS: 77 patients included in this prospective randomized controlled study. Inclusion Criterias: 1. Over the age of fourteen and have anterior knee pain syndrome 2. Thightness in lateral part of knee 3. Despite receiving conservative treatment for 6 months, patients who have anterior knee pain complaints Exclusion Criterias: 1. Diseases that prolong bleeding time 2. Drugs that prolong bleeding time 3. Abnormal APTT-INR levels 4. Patients underwent anterior cruciate reconstruction surgery 5. Patients underwent microfracture surgery 6. Patients underwent meniscus repair surgery 7. Patients underwent synovectomy -- Due to inflammatory diseases and synovial chondromatosis is excluded from the study. In this study 77 (25M 52W med age 50,14 ± 14,17) patients divided into three groups which was similar in age and sex. All patients underwent standard arthroscopic surgery for patellofemoral knee syndrome and meniscal debridement 1. Group 1 (Control) (n:10) LRL was preserved 2. Group 2 (Scissors) (n:33) LRL was released with Scissors 3. Group 3 (Electrocautery) (n:34) LRL was released with Electrocautery

RESULTS: There was no difference between the groups in terms of socio-demographic characteristics. All lateral ligaments releases were performed under tourniquet . The release is not considered to be complete unless the patella can be stood on its medial edge without difficulty . In all patients, surgery duration was recorded. To calculate the amount of bleeding the blood in the drainage tube was recorded for 24 hours after surgery.For 67 patients based on clinical examination at surgery and in the immediate postoperative period, all releases were felt to be adequate. For all groups total bleeding at 24 h postoperatively is the statically same (p:0.850) . In first 8 hours the amount of bleeding is more in scissors group (p:0.002). Lateral release time is longer in electrocautery group (380 seconds) than in scissors group (24 seconds). In release with electrocautery sometimes we used additional techniques scissors and scalpel for enough release. There was no difference between groups in terms of complications such as deep vein thrombosis , hemarthrosis or severe complications.

CONCLUSION: In this study the amount of bleeding was the same in the groups but surgery duration was longer in electrocautery group. Our new technique for intraarticular arthroscopy guided lateral retinacular release uses with scissors which is simple, effective, rapid, and have resulted a few surgical complications such as superficial skin infection which responds oral antibiotics. Electrocautery is difficult and needs experience.

KEYWORDS: Arthroscopy, Lateral release, lateral retinacular release, Anterior knee pain

P24 HOW DOES DELAYED EXCISION OF SYMPTOMATIC MEDIAL PLICA AFFECT THE OUTCOMES?

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OBJECTIVES: Medial plica (MP) is encountered mostly without symptom, however has a potential to cause derangements on the medial femoral condyle when it is prominent or thick. The incidence of MP has been reported up to 79.9%. Very few of them become symptomatic sometime. Because of late admittance to hospital or extended conservative treatment, some of the patients are operated on lately with probably increased chondral lesion. The purpose of this study is to compare the outcomes of patients operated on one year after being symptomatic, with the ones treated earlier.

METHODS: Sixteen knees of the 14 patient (seven male and seven female), who underwent arthroscopic MP excision between 2007 and 2011, were included in this study. In six patient right, six patient left and in two patient both knees were involved in this retrospective study. Plicas, which were accompanied with ligament injury, were excluded from the study. Mean age was 42.9 years (range; 23-62). All patients have complaint of pain but some additionally have mechanical symptoms such as friction during flexion-extension. Patients have been evaluated with visual analogue scale (VAS) and Lysholm score pre-operatively and at the last examination. The knees which were operated on within the first year (range; 1-12 months) after being symptomatic were grouped as group one and the ones operated on after that time (range; 18-180 months) group two. More advanced chondral lesions were in the second group. Two groups were compared statistically by using "paired t test" in terms of VAS and Lysholm score retrieved at the last control examination.

RESULTS: All patients have cartilaginous degeneration of various degrees on the surface medial femoral condyle facing MP. All over pre-operative (5.62±1.66) and last control mean VAS (2.31±2.02) and mean Lysholm scores (65.62±13.82 and 83.43±15.51, respectively) were significantly different ($p<0.005$). On the other hand, mean VAS was 2 (±2.39) in the first and 2.62 (±1.68) in the second group. Mean Lysholm scores were 81.25 (±20.04) and 85.62 (±10.16) respectively and the difference was not statistically significant in both scores ($p>0.05$).

CONCLUSION: All patients showed satisfactory outcomes after arthroscopic MP excision. MP is usually asymptomatic but, when it is large and its free edges impinge on the superior anteromedial and medial portion of the medial femoral condyle, might cause chondral damage up to full thickness cartilage lesions. When it becomes symptomatic, chondral damage quite often is already advanced. This small series revealed that, even lately performed arthroscopic excision of the MP relieves symptoms but, chondral damage continues to exist even patient becomes asymptomatic. The reasons of this might be; 1) the region of lesion is outside of weight bearing zone or 2) the origin of pain might be stretched MP before excision.

KEYWORDS: Medial plica, chondral damage, arthroscopy

P25 ORIGINAL FUNCTIONAL REHABILITATION PROGRAMME BASED ON HEALING PHYSIOLOGY AFTER RECONSTRUCTION OF ARTICULAR CARTILAGE IN KNEE JOINT

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OBJECTIVES: The evaluation of the quality of articular cartilage remodelling by means of arthroscopy findings and MRI imaging in a patient, who completed the original rehabilitation programme.

METHODS: The rehabilitation programme was conducted according to the Carolina Medical Center rehabilitation protocol. The patient was a 46 years old woman with fourth-degree cartilage damage (Outerbridge classification) located on the right medial femoral condyle of the following size: 1.5x2cm oraz 1x1.5cm. An arthroscopic micro-fracture repair of the cartilage was performed on the medial femoral condyle of the right knee. After the surgery the original rehabilitation programme has been divided into 4 stages based on biological aspects of the physiology of cartilage tissue healing and biomechanics of the knee joint. 18 months after the reconstruction and a complete rehabilitation programme, the patient underwent another right knee arthroscopy. During the surgery cartilage has been reevaluated in vivo. A pre-operative MRI was made, as well as a post-operative one after the second arthroscopy. The aim of the MRI examination was to objectify the treatment's results.

RESULTS: The applied surgical treatment and following rehabilitation resulted in the remodelling of the cartilage-like tissue, which was observed in, both, the arthroscopy and the MRI imaging. The MRI evaluation of the quality of the cartilage tissue 18 months after the reconstruction gave very good results according to the MOCART scale (magnetic resonance observation of cartilage repair tissue).

CONCLUSION: The positive results of the cartilage remodelling process recorded after the application of the original rehabilitation programme encourages to continue the study on a larger group of patients.

KEYWORDS: Cartilage repair, microfracture, cartilage healing, cartilage rehabilitation

P26 DIFFERENT CYCLIC MECHANICAL LOADING PATTERNS ALTER EXPRESSION OF OSTEOGENIC MARKERS IN A FIBROBLAST-OSTEOBLAST CO-CULTURE MODEL RESEMBLING THE TENDON-TO-BONE INTERFACE AFTER AUTOLOGOUS ACL RECONSTRUCTION

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OBJECTIVES: It was aimed to evaluate the influence of different cyclical mechanical loading patterns on co-cultures of fibroblasts and osteoblasts in vitro, simulating the conditions of the tendon-to-bone interface after anterior cruciate ligament reconstruction.

METHODS: Tendon-derived rodent fibroblasts (TDF) and osteoblast-like cells (OBL) were co-cultured to simulate the tendon-to-bone interface. Cyclical loading was applied for one hour twice a day for three days, with a frequency of 1 Hz and 3 % strain. Alkaline phosphatase (AP), osteocalcin (OC), collagen type 1 (COL1A1), and bone morphogenetic protein 2 (BMP-2) gene expression and protein deposition were detected by real-time polymerase chain reaction (qPCR) and immunocytochemical analysis.

RESULTS: Mechanical loading significantly decreased AP, OC, and COL1A1 gene expression in both OBL and TDF, compared to non-loaded cultures. However, mechanical load increased gene expression of the same marker genes including BMP-2 during co-culture. Immunocytochemistry demonstrated increased deposition of corresponding proteins in the same range, independent of culture conditions. Higher depositions of BMP-2 were shown under loading conditions for osteoblast and TDF monocultures. Prolongation of mechanical loading resulted in cell detachment and spheroid formation.

CONCLUSION: Cyclical mechanical loading caused downregulation of genes involved in osteointegration and osteoinduction, such as OC, ALP, and COL1A1 in monocultures of osteoblasts and fibroblasts; co-cultures lacked this phenomenon. Immunocytochemistry and qPCR analysis showed slight upregulations of marker genes and corresponding proteins. This might be due to the potential stabilising effects of osteoblast-fibroblast cross talk in the co-culture environment, resembling fibrocartilage formation at the tendon-to-bone interface.

KEYWORDS: Osteoblast, fibroblast, acl reconstruction, cell culture, mechanical loading

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P27 IS THERE ANY RELATIONSHIP BETWEEN THE GRADE OF MUCOID DEGENERATION OF TORN MENISCI AND BIOCHEMICAL MARKER LEVELS IN SYNOVIAL FLUID?

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OBJECTIVES: Mucoïd degeneration (MD) leads to nontraumatic tears of the meniscus even in young population. The tears are often irreparable. The purpose of this study is to find out if there is any relationship between the severity of mucoïd degeneration (MD) and the biochemical environment of the knee. Our hypothesis is that meniscal tears due to more severe MD are associated with higher levels of markers in the synovial fluid.

METHODS: Synovial fluid samples were taken during isolated arthroscopic meniscectomies. Samples of excised menisci were sent to the department of pathology for grading of MD. According to the Copenhaver staging classification, stage 1-2 menisci comprised group A (n:13), and grade 3 menisci group B (n:19). Cases with instability and with greater than grade 2 chondral lesions were excluded. Synovial fluid samples were also aspirated from 9 normal knees of individuals operated from other sites of lower extremities; these comprised the control group (C). The synovial fluids were examined for MMP-3, TIMP-1, COMP and proteoglycan (PG) fragment levels. Results were statistically analysed with nonparametric Mann Whitney's U test.

RESULTS: PG fragment levels were significantly higher in group B as compared to group A ($p=0.044$). When groups B and C were compared, the difference between PG fragment levels almost displayed significance ($p=0.055$). There were no significant differences between the groups A, B and C for MMP-3, TIMP-1, and COMP levels. MMP-3 levels were significantly higher for traumatic meniscal tears than nontraumatic tears ($p=0.025$).

CONCLUSION: In this study, our hypothesis was partially confirmed. Higher levels of PG fragments were found in knees with higher grade of meniscal mucoïd degeneration. MD may be associated with an incidious degenerative process in the knee.

KEYWORDS: Mucoïd Degeneration, MMP-3, TIMP-1, COMP, proteoglycan fragment

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P28 UNEXPECTED INJURY DURING JUMPING EXERCISE: ISOLATED SUBTALAR DISLOCATION IN A NATIONAL ATHLETE

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OBJECTIVES: The purpose of this case presentation is to disclose the results of physical therapy and conservative therapy of a rare clinical entity, isolated subtalar dislocation that occurred during triple jumping which applies maximum compression force on the foot.

METHODS: A 20 years old national triple jumping athlete fell during daily sports exercises which consist of jumping to the medial and lateral side trying to catch a sports ball bouncing from the wall while his right foot was inverted and in plantar flexion. The patient was admitted to our emergency service. The physical examination revealed that the hindfoot was displaced medially. The neurological examination was intact and there was no sign of dermal injury. After the radiological examination the diagnosis was isolated subtalar dislocation. The dislocation was reduced with longitudinal traction while the knee was in flexion. The MRI study did not reveal any chondral fracture. The choice of treatment was conservative. After 4 days as the edema subsided, a short leg cast was applied for four weeks. Then, the cast was removed and active range of motion exercises were initiated. The first 25 days consisted of exercises with rubber band, bottle rolling under the foot. The second phase included walking in the pool and the patient was asked to start weight bearing partially. Then, the patient went on with proprioception and strengthening exercises. Later, kinesiology taping was also added to the therapy. He changed his jumping foot and started his routine training program with the team after 170 days. He participated in his first official competition 16 months after the injury. At the 28. month, he broke the national record in the National Interuniversities Athletics Games. 2 months later, he got the third place in the World Athletics Championship.

RESULTS: The follow up period was 4 years. AOFAS score was 76 at second month and 83 at the fourth. At the first and at the fourth year, AOFAS score was 100. No dermal lesions or joint stiffness or signs of arthritis was observed. Avascular necrosis of talus or complex regional pain syndrome was not encountered.

CONCLUSION: Early return to sports activities is of tantamount importance as early reduction is. Reduction can be carried out in an open or closed manner. For prevention of joint stiffness, immobilisation period has to be short and active ROM exercises has to be initiated with partial weight bearing as soon as the joint stability and strength is adequate.

KEYWORDS: Isolated subtalar dislocation, dislocation, subtalar, athlete

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P29 SINGLE DOSE OF INTRA-MUSCULAR PLATLET RICH PLASMA REVERSES THE INCREASE IN PLASMA IRON LEVELS IN EXERCISE INDUCED MUSCLE DAMAGE: A PILOT STUDY

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OBJECTIVES: Platelets rich plasma (PRP) therapy, (prepared from autoblood with its own growth factors), is considered to be a promising solution in accelerating the healing process in injured skeletal muscle tissue. In addition to the release of growth factors, PRP also promotes concentrated anti-inflammatory signals, including interleukins. However, the impact of the intramuscular administration of the PRP on hematologic and biochemical responses has not been fully elucidated in exercise induced muscle damage.

METHODS: Twelve healthy moderately active male volunteers, without previous experience with eccentric/concentric elbow flexors exercise, participated in this study. They were divided into two groups: control group (CONTROL, n=6) and platelet rich plasma administration group (PRP, n=6) group. To induce muscle damage, subjects in both groups performed concentric/eccentric contractions with load of (80 % 1RM) maximal voluntary contraction of the elbow flexors until point of exhaustion of the non-dominant arm. The non-dominant arms of the PRP group were treated with autologous PRP (Regen ACR-C, Regen Lab, Switzerland) post-24h exercise induced damage (DOMS). Subsequently, 4 ml PRP samples was injected using a 20-gauge needle into the region of the biceps brachii of the non-dominant arm under sterile aseptic conditions. Venous blood samples were collected pre-, and 4 days post-exercise, and analyzed for complete blood counts, serum ferritin, iron, iron binding capacity (IBC), creatinine kinase (CK), lactate dehydrogenase (LDH), aspartate aminotransferase (AST), alanine aminotransferase (ALT) as markers of muscle damage and inflammation.

RESULTS: We found that the baseline levels of iron, ferritin, IBC, CK, LDH, AST and ALT were similar in control and PRP groups. However, 24 h following exercise induced muscle damage a significant increase in these parameters was observed in both groups. Interestingly, PRP administration decreased plasma iron levels compared to the control group but this was only achieved on the second day of post-exercise induced muscle damage. In addition, the plasma IBC levels increased in PRP group from day 2 to 4 post exercise compared to control group. PRP administration had no effect on plasma ferritin, CK, LDH, AST, and LDH levels.

CONCLUSION: Acute exhaustive exercise increased muscle damage markers, including plasma iron, IBC and ferritin levels, indicating metabolic stress due to exercise induced muscle damage. PRP administration decreased the iron levels post-exercise and may have a role to play in the recovery of exercise induced muscle damage.

KEYWORDS: Platlet rich plasma, muscle damage, iron level

P30 BONE CONTUSION ON THE MEDIAL COMPARTMENT IS A PREDICTIVE FACTOR FOR MORE ASSOCIATED INJURIES AFTER ACL RUPTURE

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OBJECTIVES: Determine the frequency of bone contusion and associated injuries, observed in patients with anterior cruciate ligament (ACL) rupture.

METHODS: Seventy two patients with an ACL rupture were enrolled in our prospective study. Magnetic resonance images (MRI) and arthroscopic findings of all patients were examined in order to detect bone contusions and associated injuries, such as menisci lesions and medial collateral ligament (MCL) injury. ACL rupture and menisci lesions were also established with knee arthroscopy. Correlation between bone contusions and menisci lesions or MCL injury was performed. Statistical packet STATA 8.0 was used for data analysis and significance was set at $p < 0.05$.

RESULTS: Fifty eight (80.5%) patients presented with associated bone contusions observed on magnetic resonance imaging. Lateral aspect of the tibia plateau (71%) and lateral femoral condyle (69%) were the most common sites with contusions. Medial compartment was associated with contusions of medial aspect of the tibia plateau and medial femoral condyle in 25% and 22% of patients respectively. The frequency of lateral meniscus ($p = 0.022$), medial meniscus ($p = 0.036$) and MCL ($p = 0.05$) injuries, significantly increased in patients with bone contusions of medial and lateral compartments compared to those with bone contusions on lateral only compartment or without bone contusions.

CONCLUSION: Bone contusion on the medial compartment is a predictive factor for more associated injuries, seen after ACL rupture and it suggest a higher energy trauma.

KEYWORDS: ACL, bone contusion, menisci, MCL, lesions

P31 THE GROIN PAIN IN THE GYMNASTS AND ITS POSSIBLE REASONS

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OBJECTIVES: The overuse injury in gymnasts due to overstretching of the joints is quite frequent. One of the most frequent complaints due to overuse injuries is pain on the insertion region of rectus femoris at the iliac apophysis. In the present study the possible reasons of the groin pain in the gymnasts were evaluated.

METHODS: Twenty-two amateur athletes from the gymnastic club were included in this study. Twenty female and two male athletes, aged between 8-12 years, has been performing floor exercise (17 gymnast, rhythm, five gymnast, artistry gymnastic). Athletes have been training for 2-4 hours in 5-6 days a week, for 3 to 10 years. Gymnasts, who have groin pain and the ones have not, were evaluated according to the ligament laxity, the range of internal and external rotation of the hip joint and gymnastic discipline, which has been performed. The results were compared with Fisher Exact test and unpaired t test and $p < 0.05$

RESULTS: Athletes, who have groin pain complaint and have not, were compared according to the age, the distance between thumb-forearm, hyperextension range in the elbow and the sum of internal and external rotation angle of the hips. Furthermore, the athletes, whom external rotation is bigger than internal rotation, were compared with the ones whom internal rotation is bigger than external rotation, to evaluate anteversion angle of the hip clinically. The difference was not statistically significant ($p > 0.05$). On the other hand, while 7 of the 17 gymnast, who perform rhythm gymnastic, had groin pain and none of the 5 athletes, who perform artistry gymnastic, has groin pain.

CONCLUSION: Overuse injuries are more common in the gymnastic sport. Repetitive microtrauma with thwarted repair might cause persistent injury in the tendon-bone junction. The anatomic factors (i.e malalignment) and overtraining predispose the athletes to overuse injuries most frequently. During adolescent growth spurt while the growth of long bones proceeds, the rectus femoris muscle, that cross more than one joint, might not gain flexibility enough and leads to excessive tensile stress on the iliac apophysis. Also, the gymnasts with generalized ligamentous laxity are more prone to the overuse injuries. Because lax ligaments fail to provide ligament stability and under further stress on the tissues neighbourhood of joint might cause overuse injuries. However, we were not able to find any difference between the athletes, who have groin pain and the ones have not, from the age, ligament laxity and hip rotation angles points of view. On the other hand, the high prevalence of groin pain complaint in the athletes, who perform rhythm gymnastic, might be related to the discipline specific exercises. So, the overuse injuries might be prevented by the well-planned training programme in each particular discipline including strengthening and balance.

KEYWORDS: Gymnast, groin pain, overuse injury

P32 POSTERIOR SHOULDER DISLOCATION DUE TO AN ATYPICAL TRAUMA MECHANISM; A CASE REPORT

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OBJECTIVES: A 32 year old man who was admitted to the emergency department with serious pain and absent movement of the right upper extremity due to passing the ball in a basketball game. He had no shoulder dislocation in his medical history. The right shoulder position was flexion and adduction. The shoulder range of motion was restricted and the neurovascular examination was intact. Posterior shoulder dislocation was diagnosed in radiographs. The aim of the study is pointed out an unusual mechanism of the posterior shoulder dislocations which is related microtrauma. The main problem in treatment of this kind of dislocation is correct and timely diagnosis.

METHODS: After diagnosing the posterior shoulder dislocation, we reduced the shoulder joint immediately and immobilized in abduction and external rotation with velpau bandage. We took radiographs and computerized tomography to confirm the reduction of the joint and diagnose the additional bone pathology. Reverse hill sacks lesion was diagnosed. Two weeks later after diagnosing passive range of movement exercises were applied. Magnetic resonance imaging was done to diagnose the additional pathology.

RESULTS: There was no specific finding in radiographs and reverse hill sacks lesion and anterior labral tear were determined in magnetic images finding.

CONCLUSION: Shoulder joint dislocations are the most seen pathology in the emergency department. On the other hand posterior shoulder dislocations are less common than anterior dislocations, but more commonly missed. Posterior shoulder dislocations are caused by high energy trauma, seizures, electric shocks and microtrauma.

KEYWORDS: Microtrauma, posterior shoulder dislocation, unusual mechanism

POSTER BİLDİRİLER DEVAMI

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P33 PULMONARY EMBOLISM AFTER KNEE ARTHROSCOPY IN 57-YEAR-OLD WOMAN

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OBJECTIVES: Pulmonary embolism(PE) after knee arthroscopy is even a rare occurrence in older patients. In this report, we present an unusual case of PE following knee arthroscopy.

METHODS: A 57-year-old woman normally active patient presented to the orthopaedic clinic has been suffering a right knee pain responseless to the medical treatment for a year. Hystory was unremarkable with the exception of hypertension and cervical biopsy.

RESULTS: An arthroscopic meniscectomy was received under spinal anesthesia after the application of an Esmarch and pneumatic tourniquet. Post-operatively first day, she was discharged. While transporting, she developed dyspnea, weakness and low-right breast pain. An immediate pulmonary angiography and cardiac echography demonstrated the obstruction in the right common pulmonary artery and subsegmentary occlusions in the left side.

CONCLUSION: After a 24-hour streptokinase therapy(ST), coumadine was started. Near the end of ST, she complained a severe knee pain healed by the ponctions. The patient was received a gastroenterology consulting and gastric endoscopy was shown an acute gastritis because of an irresistible epigastric pain unable to control by gastric prophylaxy and therapy. A control pulmonary angiography on eighth day demonstrated any thrombus including right common pulmonary artery. The patient was successfully discharged on the 11'th day.

KEYWORDS: Pulmonary embolism, arthroscopy, thromboprophylaxis

P34 CRUCIATE LIGAMENT REPAIR WITH NITINOL WIRE SYNTHETIC ALLOGRAFT: A CASE REPORT

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OBJECTIVES: To present 2 cases who underwent cruciate ligament repair by nitinol wire synthetic allograft and to discuss outcomes.

METHODS: Although definitive incidence of anterior cruciate ligament injuries is unknown, it is estimated that annual 200.000 rupture occurs with 100.000 reconstructions in United States [1]. Therapeutic options include medical treatment, isolated or augmented anterior cruciate ligament repair and reconstruction with autograft, allograft and synthetic grafts. Debates on the treatment of such injury focus on selection of graft rather than need for surgery. Once anterior cruciate ligament reconstruction was decided, surgeon should have to select a graft. In general, an autograft is preferred. There are also allograft and synthetic grafts. Autograft have advantages of low risk for cross-inflammatory response and lack of risk for disease transmission. Nitinol is a material produced from nickel and titanium. It is more often used in vascular stents, orthodontic wires, implants used in mandible surgery and some orthopedic implants [2]. We presented 2 patients who underwent reconstruction with synthetic grafts produced from flexible nitinol wire.

RESULTS: Case 1: A 31-year old man presented to our clinic with pain at right knee. The patient underwent cruciate ligament surgery 10 years ago at another facility. His right knee was sprained again 12 months ago; thus, he was re-operated ad anterior cruciate reconstruction was performed in a facility. The patient had pain after surgery. On the physical examination, there was limitation in knee flexion by 100 degree and in knee extension by 10 degree at the right. It was seen that there was painful knee movements. It was found that there was tenderness at medial joint space and patellofemoral grind test was positive while Lachman and anterior drawer tests were negative. On the plain radiographs, it was observed that reconstruction was performed by using flexible nitinol wire synthetic graft and that occasional fractures in nitinol wire existed. The patient accepted removal of graft when he was informed. Thus, we removed flexible nitinol wire synthetic graft and interference screw. In the arthroscopic examination, it was seen that there was grade 4 cartilage defect in patellofemoral joint with occasional fracture in flexible nitinol wire synthetic graft. Endo-button was localized at suprapatellar pouch and removed via arthroscopy. Micro-fracture procedure was performed for cartilage defect. The patient was scheduled for physical therapy after surgery. After 3 months, it was seen that complaints were resolved and he had almost full range of motion without instability signs. Case 2: A 23-year old man presented to our clinic with pain at right knee. He reported that his knee was injured during sports 9 months ago and he underwent anterior cruciate ligament reconstruction in another facility. However, he had persistent pain. On the physical examination, it was seen that there was full range of motion at knee but diffuse knee pain in hyperflexion. It was seen that medial McMurray test was positive and there was tenderness at medial joint space while Lachman and anterior drawer tests were negative. On the plain radiographs, it was observed that reconstruction was performed by using flexible nitinol wire synthetic graft and that occasional fractures in nitinol wire existed. Revision surgery was recommended but the patient didn't attend control visit.

CONCLUSION: Orthopedic surgeons tend to have appreciation against novel instruments; however, novel techniques should be adopted by meticulously considering outcomes without fascinating. It is clear that use of synthetic grafts without sufficient experimental and biomechanical in vivo and in vitro studies will result in some complications.

KEYWORDS: Nitinol, acl allograft, Synthetic Allograft

P36 SUBACROMIAL TENOXICAM INJECTION IN THE TREATMENT OF IMPINGEMENT SYNDROME

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OBJECTIVES: As subacromial bursa injection is widely used for pain relief and functional improvements in patients with periarticular shoulder disorder, we aimed to present our results of subacromial tenoxicam injection in the treatment of impingement syndrome.

METHODS: Patients who came to the Department of Orthopaedics and Traumatology, Istanbul Medipol University with the primary complaints of shoulder pain from January 2012 to June 2013 were selected. Those who met the following inclusion criteria were finally considered: 1) who had a clinical sign of a painful arc and posi-tive in Hawkins test and/or Neer impingement sign; 2) who had a precise rotator cuff injury including partial cuff tears, or subacromial bursitis detected during ultrasonography or mri. The exclusion criteria were as follows: 1) who underwent shoulder surgery; 2) who had full thickness rotator cuff rupture; 3) who had hemiplegic shoulder pain; and 4) who displayed any suspected fracture on X-ray or had a recent shoulder trauma; 5) who showed limited active ROM and stiffness due to adhesive capsulitis. Thirty one shoulders out of thirty patients were treated with subacromial tenoxicam injection. Ten of them were left shoulders. Fifteen of the patients were women.. Patients had a mean age of 51,6 (30-73). Patients were evaluated 4 times. Before the 1st injection, 1 week after the 1st injection, 2 weeks after the 2nd injection and 3 weeks after the 3rd injection. In every injection 20 mg tenoxicam was performed.

RESULTS: In order to relieve the pain; two patients were given only one injection, thirteen patients were given two injections and "3 injections protocol" were done to fifteen patients. The mean pre and posttreatment VAS scores were 7,9 (between, 7-9) and 2,7 (between, 2-4) points respectively. The average pre and posttreatment DASH scores were 59,41 (between, 45-80) and 14 (between, 8.3-25.8) points respectively. The mean pre and posttreatment range of motion were 106,1 (between, 80-130 and 170,7 (between, 140-180) degrees respectively. Differences between all pre and posttreatment parameters were statistically significant. ($p < 0.05$)

CONCLUSION: Tenoxicam is a cheap NSAID and an analgesic of the oxycam class, is closely related to proxycam, and has a long half-life, which enables it to be administrated once daily. It also readily penetrates the synovial fluid and intraarticular intravenous administration provides superior postoperative analgesic benefits. Tenoxicam also has the ability to prevent adhesion formation. Besides it has no detrimental effect on cartilage structure. It can safely administrate intraarticularly. Given the positive therapeutic effects of subacromial tenoxicam injection it can be used as an alternative treatment option.

KEYWORDS: Tenoxicam, subacromial impingement syndrome

P37 ARTHROSCOPICAL FIXATION OF PATELLAR OSTEOCHONDRAL FRACTURE IN A PEDIATRIC PATIENT: CASE REPORT

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OBJECTIVES: Aim of this article is to present a pediatric patient with patellar osteochondral fracture treated by arthroscopical fixation and discuss through the literature. Patellar osteochondral fractures are kind of injuries mostly seen in adolescents and young adults, generally occur after trauma causing dislocation of patella and frequently accompanied by chondral damage in the lateral femoral condyle. Surgical intervention is indicated for the displaced and intraarticular fragments.

METHODS: Thirteen-year-old male patient referred our clinic with a swollen knee, limitation in knee movements, after he had fallen on his right knee while skating 2 weeks previously and was also unable to stand on his right leg. Plain radiogram, computerized tomography and magnetic resonance images of the right knee evaluated in our clinic and a chondral defect (17x10mm in size) in distal of medial marge of patella and an intraarticular osteochondral fragment just inferomedial to patella and anterior to lateral femoral condyle was determined.

RESULTS: In the arthroscopical evaluation osteochondral defect and intraarticular fragment were observed. In addition there was chondral lesion on the chondral surface of lateral femoral condyle. Osteochondral fragment was replaced to the distal part of medial marge of patella as arthroscopically, then retrograde fixed using 2 compressive screws(24x2,7mm and 26x2,7mm) from patella to the fragment.

CONCLUSION: As patellar osteochondral fractures usually occur following acute dislocation of patella, rarely may occur without dislocation. We could find 2 cases in the literature which aren't accompnied by dislocation of patella. One of them is a non-displaced fracture and the other one is an osteochondral fragment with 15x20mm in size which was resected due to inconformity. 80 percent of acute dislocations of patella are accompanied by contusions on lateral femoral condyle and intraarticular fragments are present in 11 to 74 percent of cases. In this article we present 13 year-old male patient with an osteochondral fracture in the inferior of medial marge of patella without dislocation of patella, which was displaced into joint space and accompanied by a chondral lesion on the lateral femoral condyle, and then treated by artroscopical reduction and fixation. Our case seems to be original due to occuring without dislocation of patella and being the first case treated by arthroscopical intervention. Displaced and intraarticular patellar osteochondral fractures should be replaced and fixed by surgically. We consider that when compared with open joint surgery, arthroscopical replacement and fixation of osteochondral fractures causes lower morbidity and helps to improve rehabilitation of the patient

KEYWORDS: Patella; osteochondral; fixation

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P38 ARTHROSCOPICALLY REPAIR OF SEPARATION OF ANTERIOR INTERMENISCAL LIGAMENT: CASE REPORT

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OBJECTIVES: Aim of this article is to present a patient with separation of anterior intermeniscal ligament which was arthroscopically repaired and discuss it.

METHODS: Anterior intermeniscal ligament (AIML) (=transverse geniculate ligament or anterior transvers ligament) is an intraarticular structure connecting anterior convex edge of lateral meniscle to anterior tip of medial meniscle; limits anterior movement of menisci during extension and prevents pressure application of condyler surfaces onto menisci; and also limits anterior-posterior separation of anterior horn of medial meniscle during low degrees of flexion. AIML was found in 69 to 94 percent in different studies.

RESULTS: A thirty-eight year-old female patient referred our clinic with complaints of pain in right knee for a year that responds to pain killers, increasing with climbing stairs and decreasing with rest. Synovium originated mass was seen on MRI with contrast applied after an intraarticular mass seen on MRI. She underwent surgery and the mass in the medial of joint space considered as pigmented villonodular synovitis was resected arthroscopically. During arthroscopy, separation of anterior marge of AIML and elevation of anterior horns of both medial and lateral were noticed. Using no 1 PDS suture AIML was pulled downwards from anterior marge and fixed. After fixation AIML and anterior horns of menisci replaced on tibial plateau again.

CONCLUSION: As injuries of AIML which has an important role at stabilization of menisci during knee motions are seen very rarely, freuquency of AIML was reported 9,75 percent in a cadaver study and 75 percent of them was accompanied by medial meniscal tear. We could not find any other clinical study reporting AIML injury in the literature. As we apply arthroscopical intervention in order to resect intraarticular mass considered as pigmented villonodular synovitis, anterior separation of AIML and elevation of anterior horn of both menisci were noticed coincidentally and then were repaired. As the arthroscopical evaluation due to injuries of intraarticular structures is performed, AIML should also be evaluated, if nessesary repair should be performed in order to obtain stabilization of anterior horns of menisci.

KEYWORDS: intermeniscal, ligament, repair

P39 THE EFFECT OF SHORT-TIME PRE-SEASON INTENSIVE, NEUROMUSCULAR TRAINING ON POSTURAL STABILITY ON ELITE FOOTBALL PLAYERS

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OBJECTIVES: Adequate neuromuscular training is proven to be of enormous importance in the prevention of injuries. It enhances the ability to use somatosensory information, which improves postural capabilities, reduces injury ratios and improves player's sport performance. We hypothesized that a short-time (3 week) intensive neuromuscular training would significantly improve postural balance of professional football players. We also hypothesized that the non-dominant leg of football players would show a better level of stability than the dominant leg (kicking leg).

METHODS: Sixteen professional soccer players participated in the study. They were tested before and after the 3-week training period. The controlled group consisted of 20 players that were tested twice in 3-week period. The study was performed with a use of stabilographic platform, which is based on the measurement and analysis of center of pressure movement (COP). Players were tested during one leg stance with eyes opened and closed.

RESULTS: After a period of neuromuscular training football players show statistically better postural control ($p < 0.05$) for both the dominant and non-dominant leg for the test with eyes open and also comparing to the controlled group. The non-dominant leg did not show a better level of stability than the dominant leg.

CONCLUSION: The postural stability of professional football players was better after the 3-week intensive neuromuscular training. A combination of balance, coordination, agility, core and trunk control appears to be a successful training schedule to improve postural balance and reduce injury in football.

KEYWORDS: Proprioception, postural control, neuromuscular training, football, prevention

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P40 LONG TERM FOLLOW UP RESULTS OF THE ARTHROSCOPIC TREATMENT OF THE TALUS OSTEOCHONDRAL LESIONS (TOL) AND THE FACTORS THAT EFFECT RESULTS

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OBJECTIVES: The arthroscopic debridement, curettage and multidrilling /microfracture is well known and established method of treatment. However the factors that effect prognosis is still controversy at recent literature. The aim of this study is to present and evaluate the factors that effects the long term follow up results of our patients.

METHODS: 56 patients who admitted to our clinic with chronic ankle pain and diagnosed as TOL treated with arthroscopic debridement, curettage and multidrilling /microfracture between the period of 2005-2010 were evaluated. Arthroscopy performed through the standart portals with knee arthroscopy instruments. The instruments that used for multidrilling and microfracture were custom maded. The clinical results were evaluated in retrospective manner with face to face and telephone interview.The AOFAS questionnaire and satisfaction question (subjective) were asked on patients.

RESULTS: The female / male ratio was 29/27. The mean age was 40,5 (Min. 17- Max.70), the mean follow period was 5,9 year. (Min. 4 year – Max. 8 year).The distrubition of stages on our group were , seven patients were stage I , five patients were stage II , twenty one patients were stage III , eight patients were stage IV , fifteen patient were stage V. The lateral location exists on 7 patients ,the medial location exists on 49 patients. 40 patients had middle lesion and other 9 patients had posterior lesions. The clinical results were : the mean preoperative AOFAS score was 46,1 (Min. 34- Max.. 65), the mean post operative AOFAS score was 90,8 (Min. 41- Max. 100) .The unsatisfactory results were taken from 2 patients.The moderate satisfaction results were taken from 5 patients . The most frequent trauma mechanism were ankle sprain . The duration of symptoms before admitting to our clinic was maximum 10 years and the minimum 2 months. The mean value was 22,7 months.

CONCLUSION: The coexistence of other pathologies were local synovitis, pes cavus and pes planovalgus, degenerative arthritis (mild) , bone marrow edema, posterior talar process fracture and hallux valgus respectively. Duration of period before admitting to our clinic and being classified as higher stages detected as most important factors that negatively effects the results. The unsatisfied patients (2 patients) had also coexisting with loose bodies and pes cavus at the same time. In Stage 5 group the postoperative AOFAS increase an average of 41, while in patients with lower than stage 5 the mean increase was 48. The older age was not significant negative factor on results. Our long term results of arthroscopic debridement, curettage and multidrilling /microfracture were succesfull at the rate of %88; while the unsuccessfull at 2 (%3) patients (unsatisfied and post operative AOFAS score was 41 and 56), 5 patients (%9) had moderate satisfaction (pain with long standing and disability in long distance walking and AOFAS scores were between 72-80) .

KEYWORDS: Keyword 1: Ankle arthroscopy, keyword 2: Microfracture, keyword 3: Multidrilling, keyword 4: Talus osteochondral lesion

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P41 THE EFFECT OF THE INTERCONDYLER NOTCH WIDTH INDEX ON ANTERIOR CRUCIATE LIGAMENT INJURIES: A STUDY ON GROUPS WITH UNILATERAL AND BILATERAL ACL INJURY

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OBJECTIVES: To evaluate the relationship of the intercondylar notch width with unilateral and bilateral ACL injury by using MR images.

METHODS: The intercondylar notch width index was measured on the MR images of 18 patients with a bilateral ACL injury, 38 patients with a unilateral ACL injury and 53 healthy subjects with a normal ACL and the results of all groups were compared with each other.

RESULTS: The mean NWI values were 0,227 (± 0.008) in bilateral injured; 0,245 (± 0.009) in unilateral injured and 0,272 (± 0.01) in control groups and 0,251 (± 0.01) in unaffected side of the unilateral group. There were statistically significant differences in intercondylar notch width index (NWI) values between all groups and there was a significant difference between the affected and the unaffected sides in group with unilateral ACL injury. A cutoff value of 0.25 for NWI gave an odds ratio of 26.5 for bilateral and 3.23 for unilateral ACL injuries.

CONCLUSION: The finding that NWI is significantly narrowed in patients with bilateral and unilateral ACL tears compared with the healthy controls suggest a relationship between a narrow NWI and an increased risk of ACL injury. The patients with a narrow NWI should also be screened contralaterally for assessment of ACL injury risk on the other knee. So, specialized training programmes for the people with narrow NWI can be prepared for preventing ACL injuries.

KEYWORDS: Anterior cruciate ligament, notch width index

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P42 TRANSTIBIAL APERFIX SYSTEM IN RECONSTRUCTION OF ACL INJURIES: RADIOLOGICAL AND CLINICAL TWO YEAR FOLLOW-UP RESULTS

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OBJECTIVES: The aim of this study was to assess the clinical outcomes and fixation durability of the AperFix (Cayenne Madical, Scottsdale, Arizona) system and to determine the effect of patient's age in arthroscopic reconstruction of the anterior cruciate ligament.

METHODS: Patients with symptomatic anterior cruciate ligament rupture underwent arthroscopic reconstruction. Patients were evaluated in terms of range of motion values; Lysholm, Cincinnati and Tegner activity scales; laxity testing and complications. Tunnel widening was assessed by AP and lateral radiographs. Early postoperative and last follow-up radiographs were compared.

RESULTS: Fifty-one patients were evaluated at a 29 months (range: 25-34 months) follow-up. Mean age at the surgery was $26,5 \pm 7,2$ years. Lysholm, Cincinnati and Tegner activity scales were significantly higher from preop scores. (Lysholm scores: preop: $51,4 \pm 17,2$ postop: $88,6 \pm 7,7$ ($p < 0,001$); Tegner activity scores: preop $3,3 \pm 1,38$ postop: $5,3 \pm 1,6$ ($p < 0,001$); Cincinnati scores: preop: $44,3 \pm 17$ postop: $81,3 \pm 13,9$ ($p < 0,001$)). There was no significant difference for knee score, range of motion deficits and femoral tunnel enlargement of the patients with below and above 30 years.

CONCLUSION: According to our results with <30 years and above >30 years patient comparison we think that patient's age is less important than activity level for the surgical treatment decision. The AperFix system performed satisfactory clinical and radiological results with low complication rate. But long-term clinical and radiological results are needed to decide the ideal ACL reconstruction method.

KEYWORDS: Anterior cruciate ligament injuries, Aperfix System

POSTER BİLDİRİLER DEVAMI

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P43 BİLATERAL SEMENTLİ DİZ PROTEZİ İLE TEDAVİ EDİLEN OKRONOTİK ARTROPATİ: VAKA SUNUMU

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AMAÇ: Okronozis tanısı genellikle dejeneratif artrit , dokulardaki kahverengi-siyah pigmentasyon ve idrar renginin siyah olmasını içeren triad ile konur. İdrarda kantitatif olarak homogentisik asitin tayini tanıda önemlidir. Okronozisin spesifik bir tedavi yöntemi yoktur. Genel klinik yaklaşım semptomatik tedaviyi içermektedir. Ancak, İleri evre osteoartriti bulunan hastalarda eklem replasman cerrahileri tercih edilebilir. Biz çalışmamızda primer total diz artroplastisi ile tedavi ettiğimiz bir okronotik artropati olgusunu size sunacağız.

YÖNTEM: 61 yaşında erkek hasta her iki dizde ağrı ve yürüme güçlüğü şikayeti ile kliniğimize başvurdu. Hastanın boyu 165 cm kilosu ise 63 kg idi. Ağrılarının son 5 yıldır bulunduğunu ve bir yıl içinde şiddetlendiğini, desteksiz yürüyemediğini belirtiyordu. Kendisine bir yıl önce yapılan tanısız diz artroskopisi sonrası okronozis tanısının ortopedist tarafından konulduğunu ifade etti.

BULGULAR: Ağrısız yürüme mesafesinin 100 metre olduğunu ifade eden hastanın yapılan değerlendirmesinde Diz cemiyeti fonksiyon skoru 40 , Diz cemiyeti diz skoru 40 ve Cincinnati skoru 120 olarak belirlendi. Eklem hareket açıklığı nötral sıfır sistemine göre sağ dizde 0-0-100, soldizde ise 0-0-110 olarak ölçüldü. Direkt grafilerinde bilateral evre 4 gonartroz tespit edildi. Hastaya kliniğimizde üç ay ara le bilateral sementli bağ koruyan total diz protezi uygulandı. Cerrahi sırasında tüm kıkırdak yüzeyde siyah renk değişimi ve ileri düzeyde dejenerasyon gözlemlendi. Cerrahi sonrası ikinci gün hemovak drenler alındı. İkinci günden itibaren yük verilmeye ve aktif eklem hareket açıklığı egzersizlerine başlandı. Cerrahi sonrası beşinci gün hasta kliniğimizden taburcu edildi. Hasta 2. , 4. , 8. ve 12. haftalarda poliklinikte takibe alındı. Cerrahi sonrası birinci yıl kontrollerinde radyografide gevşeme bulgusu gözlenmedi

SONUÇ: Olguda diz skorlarında artış mevcuttu. Okronotik diz artropatisinde kullanılacak protezin tipi konusunda literatürde yeterli bilgi olmamasına rağmen bağ koruyan sementli diz artroplastisi ile memnuniyet verici sonuç elde edilmiştir. Klinik olarak anlamlı sonuçların ve yeterli tecrübenin elde edilmesi için nadir görülen bu türlü olguların cerrahi sonuçlarına literatürde daha fazla yer verilmesi gerektiğini düşünmekteyiz.

ANAHTAR KELİMELER: Okronozis, artropati, total diz artroplastisi

POSTER BİLDİRİLER DEVAMI

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P44 ANTERİOR GLENOİD RİM PARÇALI KIRIĞINDA SALVAGE PROSEDUR

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AMAÇ: AO/ATO Sınıflamasına göre 09-B1-2 (Anterior Gleonoid rim kırığı) benzeri kırık fragmanın çok sayıda ve onarılamaz olduğu ve gleonohumeral(GHE) eklem anterior-inferiora subluksye olduğu ihmal edilmiş bir olguda uyguladığımız corocoid çıkıntı ile yüzey rekonstrüksiyonunun sunumu ve cerrahi tekniğin tanıtımı.

YÖNTEM: 56 yaşında erkek hasta trafik kazası sonrası sağ omuz kırıklı çıkığı tanısıyla faklı merkezlerce takip edildikten yaklaşık 8 hafta sonra kliniğimize refere edildi. Hastanın yapılan fizik muayene de sağ omuzda hareket kısıtlılığı ve apolet belirtisi tespit edildi. Omuz 3D görüntüleme de GHE çıkığı ve çok parçalı glenoid anterior rim kırığı tanısıyla cerahi tedavi planlandı. Şezlong pozisyonda anterior delto-pektoral yaklaşımla kırık hattına ulaşıldı corocoid çıkıntı osteotomize edilerek(Mcorobrachialis korunarak) kırık hattındaki fragmanlar eksize edildikten sonra glenoid anterior-inferior daki defekt alanına intra artiküler olarak yerleştirildi.(Laterjet proseduru benzeri) 2 adet 3.5 mm kanüllü vida ile stabilizasyon sağlanarak kapsül ve rotator cuff 2 adet 3.5 mm sütür anchor kullanılarak onarıldı ve kol gövde bandajı uygulandı.3 Hafta immobilizasyon ardında kademeli rehabilitasyona başlandı.

BULGULAR: Hasta 2 hafta aralarla sağ omuz iki yönlü grafileri çekilerek 3 ay, toplamda 6 ay takip edildi. Hastanın takip süresince GHE de redislokasyon veya subluksasyon oluşmadı. İlk 8 haftadan sonra analjejik ihtiyacı olmadı. Final takipde transfer edilen corocoid prosesinde tam kaynama tespit edildi. Rotasyon veya malpozisyon oluşmadı. Abdüksiyon 110, addüksiyon 20, external rotasyon 15, iç rotasyon :20 derece olarak tespit edildi. Final takipde constat shoulder skor 72 olarak belirlendi.

SONUÇ: Anterior glenoid rim'in onarılamaz şekilde çok parçalı kırığı nadir olarak karşılaşılan bir kırık paternidir. Alışılmış çok parçalı olmayan kırıklarında artroskopik veya açık tekniklerle anchor veya vida yardımlı onarım bu tür kırıklarda mümkün olmamaktadır. Glenoid 1/3 anterior kısım defekti ile seyreden bu tür patolojilerde tekrarlayan omuz çıkıklarının açık tedavisinde uygulanan laterjet prosedür'ünün benzerini, defekt alanının rekonstrüksiyonunun için uyguladığımız bu cerrahide, tatmin edici klinik ve radyolojik sonuç aldık. Bu tür problemler vakalarda kabul edilmiş, kondral yüzeye sahip bir greftleme tekniği ile bu rekonstrüksiyonu yapamadığımız için osseoz materyalle gerçekleştirdiğimiz bu salvage prosedur zorunlu hallerde alternatif bir seçenek olarak düşünülebilir.

ANAHTAR KELİMELEER: Gleonohumeral luksayon, glenoid kırığı, stabilizasyon

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P45 TİBİA PLATO KIRIKLARI İLE İLİŞKİLİ MENİSKÜS YIRTIKLARININ TAMİRİ

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AMAÇ: Tibial plato kırıkları sıklıkla menisküs yırtıkları ile birlikte görülür. Bu zeminde yapılan menisküs tamirlerinin sonuçları çok iyi bilinmemektedir. Bu çalışmada tibia plato kırığına eşlik eden menisküs yırtıklarının tamir sonuçları değerlendirildi.

YÖNTEM: Kliniğimizde tibia plato kırığı tanısıyla açık redüksiyon ve internal tespit yapılan 24 hastanın 5'inde eş zamanlı menisküs yaralanması mevcuttu. 4 hastada Schatzker tip 6 kırık, 1 hastada tip 3 kırık mevcuttu. Cerrahi sırasında eklem yüzü restorasyonunun kontrolünü sağlamak için eklem kapsülü lateral menisküsle birlikte kaldırıldı. 3 hastada lateral menisküs gövdesinde 2 hastada lateral menisküs ön boynuzunda longitudinal yırtık mevcuttu. Tüm hastalara açık redüksiyon ve anatomik kilitli plak-vida ile tespit yapıldı. 4 hastada kemik defektinden dolayı greftleme gerekti. Osteosentez sonrasında 2/0 emilmeyen vertikal dikişler ile menisküs tamiri yapılarak eklem kapsülü kapatıldı. Hastaların ort. yaşı 48.4(41-53), ortalama takip süresi ise 29.4 ay(9-48) idi. Ameliyat sonrası dönemde hastalar Lysholm, Tegner, HSS ve KSS skorlamaları ile değerlendirildi.

BULGULAR: Ameliyat sonrası dönemde ortalama HSS diz skoru 80.75(77-82) idi. Ortalama KSS diz skoru 90.25(85-94) iken KSS fonksiyon skoru 97.5(90-100) idi. Ameliyat öncesi dönemle karşılaştırıldığında Tegner skorlamasına göre hafif düzeyde aktivite azalması gözlemlendi. Ortalama Lysholm skoru 89,75 idi. Ameliyat sonrasında artrofibrozis nedeniyle eklem hareket açıklığında azalma gözlenen bir hastaya artroskopik artroliz yapıldı. Artroskopi sırasında tamir edilen menisküs dokusunun tamamen iyileştiği görüldü. tedavi sonrasında bu hastanın diz hareket açıklığı tama ulaştı. Hiçbir hastada ameliyat sonrası dönemde menisküs semptomları gözlenmedi. Çekilen diz MR'larında tamir edilen tüm menisküs yırtıklarının iyileştiği görüldü.

SONUÇ: Tibia plato kırıklarına menisküs yırtıkları da eşlik edebilmektedir. Tibia plato kırıkları ile ilişkili menisküs yırtıklarının tamir sonuçları yüz güldürücüdür. Bu yüzden bu tür kırıklarda ek yaralanmalar akılda tutulmalı ve ihmal edilmemelidir.

ANAHTAR KELİMELEER: Tibia plato kırığı, Menisküs yırtığı, Tamir

TERCİH EDİLEN SUNUM ŞEKLİ: Sözlü Sunum

P46 POSTERIOR ANKLE AND HIND FOOT ARTHROSCOPY: INDICATIONS AND RESULTS

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OBJECTIVES: While anterior ankle arthroscopy is a widely accepted technique, posterior ankle/hind foot arthroscopy is still a relatively new procedure. The arthroscopic visualisation was often initially limited and vulnerability of the posteromedial neurovascular structures to injury scared orthopaedic surgeons. The goal of this review is to highlight the indications, and to present the long term follow up results of posterior ankle/hind foot arthroscopy.

METHODS: The study included 21 ankles in 21 patients (12 male and 9 female).The mean age was 37.7 , the mean duration of preoperative symptoms 12.8 months . Arthroscopy performed with the patient prone , under general and spinal anesthesia with tourniquet hemostasis . Preoperative intravenous antibiotic prophylaxis is performed (cefazolin 1g) , sand bag placed under ipsilateral anterosuperior iliac spine to correct natural external rotated posture of the ankle and ankle is left hanging of the table so that it can moved freely during surgery. We applied noninvasive distraction method with simple rope which tied and knotted waist of the to surgeon . The posterolateral and posteromedial portals which described by Van Dijk was utilized .The arthroscopic visualisation was often initially limited and careful debritement of some adipose tissue of the kager fat pad (Kager's fat pad, also known as the pre-Achilles fat pad) was necessary to create more space to aid visualization .The most valuable point to stay clear from trouble is to understand , know and aware where the flexor hallucis longus tendon exist .So neurovascular structures located beyond this tendon. Principally the process must advance into lateral to medial manner. The mean follow up period was 55 months. The most common preoperative diagnoses were osteochondral lesions of talus (ten),painful os trigonum syndrome with (five)or without (three) FHL tenosynovitis (total eight), posterior talofibular ligament thickening (two), haglund deformity (one)

RESULTS: The mean pre operative AOFAS score was 50.75, the mean post operative AOFAS score was 93,75. Complications were noted. Complex regional pain syndrome (CRPS) and edema was diagnosed during early post operative period in one patient (%4.7), resolved with physical therapy

CONCLUSION: The most common procedures were osteochondral lesion debritement and curretage with multidrilling /microfracture (10), isolated os trigonum excision (2), tenolysis of the flexor hallucis longus tendon with os trigonum excision (6), debritment of the thickened posterior talofibular ligament (2) , endoscopic partial calcaneotomy for haglund deformity (1) . Our experience demonstrated that posterior ankle and hind foot arthroscopy can be performed with low rate major postoperative complications.

KEYWORDS: Keyword 1: ankle impigement syndromes, keyword 2: FHL tenosynovitis, keyword 3: Os trigonum syndrome, keyword 4: Posterior ankle arthroscopy

POSTER BİLDİRİLER DEVAMI

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P47 BEARING WEIGHT AT THE SAME DAY IN CONSERVATIVELY TREATED ACUTE ACHILLES TENDON RUPTURE PATIENTS: A SINGLE CENTER EXPERIENCE

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OBJECTIVES: Achilles tendon rupture (ATR) often occurs in 40- to 50-year-old men.. At treating there has been considerable research interest in attempting to identify the optimal treatment strategy, surgical or non-surgical, combined with functional early mobilisation or plaster cast immobilisation. Our aimed to compare the outcomes of bearing weight at the same day in conservatively treated and surgically treated groups of ATR patients.

METHODS: Thirty-two conservatively treated ATR patients and twenty nine surgically treated ATR patients were included to our study. Patients were over 18 years old who had been followed for 12 months by our clinic. All patients underwent knee supporting cast at four week and both group was asked for walking with bearing weight (%30-40) at same day.

RESULTS: In all groups 2nd. and 12th. months' AOFAS (American Orthopaedic Foot And Ankle Society) scorings of the patients had significant differences ($p < 0.001$). Return to work time results were significantly different and shorter in conservatively treated group ($p = 0.035$). This study founded a relatively high complication percentage of (6 patients) 20.6% in the surgically treated group. On the contrary the wound complications non surgical group has not been observed.

CONCLUSION: In conclusion, this study adds to evidence that a well conducted non-surgical treatment protocol (early mobilization treatment reg-imen) gives a good clinical outcome and complication rate is not higher than after surgical treatment

KEYWORDS: Achilles Tendon Rupture¹, Conservative Treatment², Foot and Ankle³

POSTER BİLDİRİLER DEVAMI

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P48 THE CLINICAL OUTCOMES OF ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION SURGERY BASED ON IATROGENIC DAMAGE: IT HAS NOT JUSTIFIED YET

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OBJECTIVES: To examine the degenerative changes of adjacent cartilage and bony structure, after anterior cruciate ligament reconstruction surgery.

METHODS: 27 subjects, who had anterior cruciate ligament reconstruction surgery due to various reasons at least 12 months ago, were admitted to study. MRI data of patients were acquired retrospectively. Pre-operative and post-operative MRI images were compared according to retropatellar cartilage thickness, evidence of any new osteophytes formation or any signal intensity change on bony elements. Paired statistical analysis was applied.

RESULTS: The MRI revelation showed that; there were 14 patients with decrement of retropatellar cartilage thickness, 9 patients with new osteophytes formation and 21 patients with abnormal signal intensity change on bony elements; which were statistically significant ($P<0.001$).

CONCLUSION: These results provide basic information about the degenerative effect of anterior cruciate ligament reconstruction surgery, on adjacent cartilage and bony structure.

KEYWORDS: Anterior cruciate ligament, oostearthritis, MRI

P49 SUBCALCANEAL AĞRI SENDROMUNDA ŞOK DALGA TEDAVİSİNİN ETKİLERİ

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AMAÇ: Topuk ağrısı polikliniklerde sıklıkla rastladığımız bir semptomdur. Etiyolojisi hakkında tam bir görüş birliği yoktur. Doğru tanı tedavi için önem taşır. Topuk ağrısında Extracorporeal Shock Wave Therapy (ESWT) son yıllarda kullanımı giderek artan bir tedavi seçeneğidir. Özellikle spor hekimliğinde tendinopatilerde sıklıkla kullanılmaktadır. ESWT önemli ölçüde az komplikasyonu olan noninvaziv konservatif bir tedavi yöntemidir. Hastaların kısa sürede günlük yaşam aktivitelerine devam etmeleri, kısa iyileşme süresine sahip olması gibi avantajları bulunmaktadır.Fakat tedavide net protokollerin ortaya çıkmamış olması en büyük dezavantajdır. Bunun çeşitli sebepleri bulunmaktadır. Uygulama sırasında teknik farklılık (makine tasarımı, frekansı, seans sayısı, plesabo uygulanan değişik tedavi seçenekleri), hasta popülasyonundaki farklılıklar, hastalığın şiddetinin farklı olabilmesi ve çalışma dizaynındaki farklılıklar.Çalışmamızda farklı ağrı skor lamaları kullanarak ESWT etkinliğini araştırmak istedik.Ortak bir protokol oluşturmak için bir başlangıç olsun istedik.

YÖNTEM: Çalışmaya subcalcaneal ağrı sendromu tanısı almış hastalar dâhil edildi. 23 kadın,7 erkek toplamda 30 hasta incelendi. Tüm hastalara haftada 1 kez olmak üzere 6 seans, 6 hafta süreyle, frekans sıklığı 4-12 Hz, basınç 2-3 bar, 1800 atım/seans,0,384-0,6 mj/cm2 şeklinde uygulanmıştır. Tedaviyi değerlendirmek için Amerikan Ortopedi Derneği Ayak – Ayak Bileği Skoru (AOFAS), The Foot & Ankle Disability Index (FADI) Score, Roles and Maudsley skorları kullanıldı.

BULGULAR: Tedavi öncesi AOFAS skor ile tedavi sonrası AOFAS skoru arasında bağımlı gruplarda T testi uyuladık istatistiksel olarak anlamlı fark tespit edildi $p<0.05$ Tedavi öncesi FADI skor ile tedavi sonrası FADI skoru arasında bağımlı gruplarda T testi uyuladık istatistiksel olarak anlamlı fark tespit edildi $p<0.05$ Tedavi öncesi Roles and Maudsley ile tedavi sonrası Roles and Maudsley skoru arasında bağımlı gruplarda T testi uyuladık istatistiksel olarak anlamlı fark tespit edildi $p<0.05$ Sabah ağrısı olan ile tam gün ağrısı olanların FADI skorlarının MannWhitney –U testi ile karşılaştırdık ve iki grup arasında istatistiksel olarak anlamlı fark tespit edilmedi $p>0.05$ $p=0.704$ 1 yıl önce semptomları başlayanlar ile 1 yıldan sonra başlayanlar arasında FADI skorları istatistiksel olarak Mann Whitney -U tetsti ile karşılaştırıldı ve istatistiksel olarak anlamlı fark tespit edilmedi $p>0.05$ $p=0.086$ Çalışmanın başlangıcında hastaların geniş bir alanda tarifledikleri ağrı, tedavi sırasında tek bir noktada toplandı.27 hastada ağrı tek bir noktada toplandı.

SONUÇ: Literatürde ESWT ile ilgili bir çok çalışma yapılmıştır.Topuk dikeninde etkili olduğu bazıları da etkisiz olduğu gösterilmiştir. Hastalardaki tedavi süresince ağrı karakterindeki değişiklikler,uygulamanında farklılığını ön plana çıkarmıştır.Pratikte sadece spurun olduğu bölgeye uygulamak tedavi süresini değiştirecek gibi gözükmemektedir.Çalışmamızda kabul gören ağrı skorlarıyla ESWT nin etkili olduğu gözlenmiştir.Fakat ortak bir protokol oluşturabilmek için daha fazla çalışmaya ihtiyaç vardır.

ANAHTAR KELİMELEER: Ağrı 1, şok dalga tedavi2, topuk dikenii3

POSTER BİLDİRİLER DEVAMI

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P51 ARTROSKOPİK ASETABULAR LABRUM TAMİRİ SONUÇLARIMIZ

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AMAÇ: Femorasetabuler sıkışma(FAS) sendromunun günümüzde hastalık hakkındaki bilgi ve birikimi artmaktadır. Bu durumun neden olduğu eklem kıkırdığı harabiyeti ve labrum yırtıklarının tedavisi ise günümüzde popülerlik kazanmıştır. Bu çalışmada FAS tanısı ile artroskopik labrum tamiri yapılan hastaların klinik ve işlevsel sonuçları bildirilmiştir.

YÖNTEM: Ekim 2011- Mart 2014 tarihleri arasında yaş ortalaması 37,29(23-58) olan 8 erkek, 9 kadın toplam 17 hastanın 17 kalçasına FAS tanısı ile kalça artroskopisi uygulandı. 7 hastanın sol 10 hastanın sağ kalçası ameliyat edildi. Bu hastaların 3'ünde pincer tipinde, 12'sinde cam tipinde FAS mevcuttu. Tüm hastalar artroskopik olarak tedavi edilmiştir. Hastalar ameliyat öncesi ve ameliyat sonrası son kontrollerinde fonksiyonel eklem hareket açıklıklarına, Harris kalça skorlarına göre değerlendirme yapılmıştır.

BULGULAR: Ortalama takip süresi 15,53(6-35) aydır. Dejeneratif labrum yırtığı olan 4 hastaya debridman, 1 hastaya gracilis tendon otogrefti ile artroskopik labrum rekonstrüksiyonu, 12 hastaya ise labrum tamiri yapıldı. Cam tipinde sıkışması olan hastaların hepsine femoroplasti yapıldı. Hastaların ameliyat öncesi ortalama Harris kalça skoru 58,7 iken ameliyat sonrası ortalama 86,75(42-98) idi. Labrum tamiri yapılan 2 hastada kötü sonuç gözlenirken 10 hastada mükemmel sonuç elde edildi. Mükemmel sonuç elde edilen hastaların ameliyat sonrası ortalama Harris kalça skorları 93,9(80-98) idi.

SONUÇ: Literatürde artroskopik asetabular labrum tamiri ile ilgili uzun dönem klinik sonuçlar henüz bilinmemektedir. Kalça artroskopisinin öğrenme eğrisinin uzun olması, teknik olarak deneyim gerektirmesi ve uygun hasta seçimi tekniğin dezavantajlarıdır. Uygun hasta, uygun ve kaliteli teknik ve deneyimli cerrah bileşenleri biraraya geldiğinde sonuçlar yüz güldürücüdür. Bildirilen bu çalışmada elde edilen klinik sonuçlar artroskopik labrum tamirinin başarılı olduğunu göstermektedir.

ANAHTAR KELİMELER: Asetabular labrum, artroskopik tamir

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P52 POSTERIOR CRUCIATE LIGAMENT RECONSTRUCTION USING SINGLE-BUNDLE ACHILLES ALLOGRAFT WITH OPEN TIBIAL INLAY FIXATION

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OBJECTIVES: PCL reconstruction research has shown that the tibial inlay and transtibial tunnel procedures offer similar biomechanical results. The purpose of this study was to evaluate the early results of PCL reconstruction using a single-bundle Achilles allograft and tibial inlay fixation.

METHODS: We retrospectively studied 14 patients who had undergone PCL reconstruction using the direct tibial inlay fixation technique from 2009 to 2013, with a mean follow-up of 13.4 months. (6-28 months). The patients were 11males and 3 females with an average age of 29.2 years (17-41 years). Ipsilateral femoral shaft fractures were determined in 2 cases, ipsilateral trochanteric fracture in 1 case and popliteal artery injury in 1 case. Surgery was performed within 2-4 weeks. Spanning-joint external fixation was applied to 2 patients because of gross instability with failure to maintain reduction in a brace. Combined reconstructions involving the posterolateral corner (9/14), anterior cruciate ligament (ACL (11/14)), or medial collateral ligament (MCL (1/14)) were performed. All PCL reconstructions were performed with Achilles allograft. In 1 case with arterial injury, the repair was made by a cardiovascular surgeon. In 2 case, deep infection developed, which was controlled with debridement and antibiotic treatment. Superficial peroneal nerve injury in 1 case was treated with tenolysis in the 6th month, then partial healing was seen at 18 months. In all patients, the preoperative posterior drawer (PD) examination was positive. All patients were evaluated with preoperative and postoperative examination and x-rays. The International Knee Documentation Committee (IKDC) evaluation was applied to all patients at the final follow-up.

RESULTS: Postoperative PD examination demonstrated the following: 0 (normal) in 4 patients, 1+ in 7 patients, and 2+ in 3 patients, compared to the preoperative PD of 3+ or greater in all patients. Preoperative IKDC objective evaluation rated all knees as severely abnormal based on instability. The final follow-up objective IKDC evaluation distribution was as follows: A, 4 knees; B, 6 knees; C, 3 knees and D, 1 knee, compared to D in all 14 knees preoperatively. The average final follow-up IKDC subjective score was 74.1 (20-100).

CONCLUSION: Despite transtibial PCL reconstruction being advocated by several authors, it has technical difficulties of the arthroscopic approach to the posterior compartment of the knee. In the open inlay technique, posterior arthrotomy allows accurate placement of the tibial PCL insertion, Avoiding the killer curve and more closely duplicating the normal PCL anatomy. Based on our initial experience with this technique at early follow-up, we continue to use the tibial inlay technique as our preferred technique for isolated or combined reconstruction of the PCL.

KEYWORDS: PCL; posterior cruciate ligament; knee ligament; inlay technique

P53 ANALGESIC EFFECT OF FEMORAL NERVE BLOCK ON POSTOPERATIVE PAIN AND AMBULATION AFTER TOTAL KNEE ARTHROPLASTY

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OBJECTIVES: Determine the analgesic effect of a single injection femoral nerve block on postoperative pain and ambulation, after total knee arthroplasty.

METHODS: In a prospective study, 84 patients undergoing total knee arthroplasty were randomly assigned to receive: either one single injection femoral nerve block and 100mg paracetamol combined with lornoxicam 4 mg administrated twice intravenously for 5 days (group 1, n=42) or only the aforementioned analgesics without nerve block for the same period (group 2, n=42). Distance walked on 5 first postoperative days and VAS pain score during first 5 days were reported. Patients with bilateral osteoarthritis, previous leg injury or serious cardiovascular disease were excluded. Statistical analysis was performed by statistical packet STATA 8.0 and significance was set at p-value <0.05.

RESULTS: Patients of group 1 walked longer distance than patients of group 2 on postoperative day 1, 2 and 3 (p<0.05). The VAS pain score decreased significantly from 7.8/10 to 4.1./10 in Group 1 (P<0.05) and from average 8.1/10 to 5.9/10 in Group 2 (p<0.05) at 5 days after surgery. Patients of group 1 experienced less pain than patients of group 2 at 5 days after surgery according to VAS pain score (p<0.05).

CONCLUSION: Single shot of femoral nerve block provides efficient pain relief on early postoperative period after total knee arthroplasty. This is associated with better ambulatory performance.

KEYWORDS: Arthroplasty; block; femoral; nerve; knee

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P54 ANATOMİK ÖN ÇAPRAZ BAĞ FEMORAL TÜNELİNİ HAZIRLAMAK FİGÜR 4 POZİSYONUNDA DAHA MI KOLAY?

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AMAÇ: Çalışmada anatomik öç çapraz bağ (ÖÇB) rekonstrüksiyonunda femoral tünel hazırlanırken dizin figür dört pozisyonunun sagittal doğrultuda hiperfleksiyona getirmeye üstün olacağı ön hipotezini araştırdık.

YÖNTEM: Kliniğimizde 2014 yılında aynı cerrah tarafından hamstring otogrefti kullanarak anatomik ÖÇB rekonstrüksiyonu uyguladığımız 20 hasta her gruba 10 hasta olacak şekilde dahil edildi. Randomizasyon ameliyat sırasına göre bir hastaya fleksiyon yöntemi ile başlanıp takip eden her hastada yöntem değiştirilerek uygulandı. Yaş ortalaması fleksiyon grubu için 28(22-35), figür dört grubu için 29(23-35) olarak belirlendi. Ameliyatlar bacak tutucu kullanılmadan taraf ekstremité masanın yanından aşağı sarkıtılarak gerçekleştirildi. Femoral tünel hazırlanırken dizi sagittal doğrultuda hiperfleksiyona getirilen hastalar fleksiyon grubu ve figür dört pozisyonunda hiperfleksiyona alınan hastalar figür dört grubu olarak ele alındılar. Hastalar ameliyat sırasında femoral tünel giriş yerinin görüntülenmesi, femoral tünel hazırlama anındaki ameliyat süresi, kılavuz telinin uyluktan çıkış yeri ve tünelin ameliyat sonrası radyolojik görünümü açısından değerlendirildi.

BULGULAR: Figür dört grubunda femoral tünel giriş yerinin görüntülenmesi subjektif olarak daha tatmin edici, tünelin hazırlanma süresi daha kısa ve kılavuz telinin uyluktan çıkış noktasının posteriora daha yakın olduğu bulundu. Ancak peroneal sinir hasarı ile karşılaşmadı. Femoral tünellerin femurun anatomik aksıyla yaptığı açığı ölçerek yaptığımız radyolojik değerlendirmede ise fark bulunmadı.

SONUÇ: Çalışmada figür dört pozisyonu kullanıldığında; ÖÇB nin femoral tüneli için daha iyi bir artroskopik görüş sağlanmaktadır. Asistanın dizi uygun pozisyonda tutması için fleksiyon grubunda kalça eklemine hareketlerini de kontrol etmesi gerekirken, figür dört pozisyonunda ayak bileğinden tek elle uygulayacağı fleksiyon yeterli olmaktadır. Hasta dizinin sagittal doğrultuda 120°nin üzerinde maksimal fleksiyona alındığında dizin yerden yüksekliği değiştiği için ameliyat masasının cerrahın boyuna göre yukarı veya aşağı getirilerek ayarlanması gerekmektedir. Bu işlemin fleksiyon grubunda ameliyat süresini uzattığı bulundu. Kılavuz telin ciltten çıkış noktasının fleksiyon grubuna göre daha posteriora olması ise peroneal sinirin seyri nedeniyle dezavantaj olarak belirlendi. Bulgularımız bazı kısıtlarına rağmen hipotezimizi kanıtlar nitelikte, femoral tünel hazırlamada dizi figür dört pozisyonuna getirmenin cerrahın işini kolaylaştırdığını desteklemektedir.

ANAHTAR KELİMELEER: Anatomik, figür4, öçb

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P55 GANGLION CYST CONTIGUITY OF THE FLEXOR HALLUSIS LONGUS TENDON IN THE NATIONAL SWIMMER: AN UNUSUAL CASE REPORT

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OBJECTIVES: Tendinopathy in the flexor hallucis longus tendon is common in the athletes. This case is intended to be reported diagnose and treatment ganglion cyst contiguity of the flexor hallucis longus tendon that located atypical region and adversely affect the athlete's training program.

METHODS: 25-year-old male national swimmer was assessed with a left ankle pain. He had an intensive training program in the pool using pallets at the everyday. Pain in the left ankle was localized posterior and distal of the medial malleolus . Ankle range of motion and muscle strength was full. Neurovascular examination was normal. Radiography with anterior posterior, lateral and oblique analysis was not any unusual finding. In the evaluation with magnetic resonance imaging, thickening of the tendon sheath and effusion around the flexor hallucis longus was revealed and tendon integrity was exact.

RESULTS: Conservative treatment was planned. It was applied non-steroidal anti-inflammatory medicine, modification of the training (without or low weight pallet), platelet rich plasma (two weeks, two times peer weeks). During the six-month follow-up the patient's symptoms improved, but with the increased intensity of training at follow-up complaints started again. Professional athletes who did not respond adequately to conservative treatment surgical exposure were planned. Patient is approached the flexor hallucis longus musculotendinous junction from the posteromedial ankle at the level of the posterior talar tubercles. During the tendon exposure cyst was found at the level of talocalcaneal joint. Excision of the cyst was achieved; its size was 5x5 mm, looking transparent, well defined and soft consistency. Tenolysis is accomplished from superior to inferior to the level of the superior calcaneus. A histopathologic examination result of the cyst consistent with ganglion cyst was detected. Sport-specific training programme started at the 6 weeks. There was no recurrence during the 6 months follow-up.

CONCLUSION: Tendon associated ganglion cyst is not usual although flexor hallucis longus tendinopathy is common in athletes. External pressure causes in addition to the overuse injuries should be remembered in the differential diagnosis of posterior ankle and medial arch pain. Clinical suspicion and magnetic resonance imaging are valuable in establishing the diagnosis. Tenolysis and excision of the associated mass has proven to be a relatively safe and successful procedure especially in highly demanded elite athletes.

KEYWORDS: Elite athlete, ganglion cyst, flexor hallucis longus tendon

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P57 FEMUR BAŞI OSTEOKONDRAL LEZYONU İÇİN UYGULANAN MOZAIKPLASTİ TEDAVİSİ VE UZUN DÖNEM SONUCU: 8 YIL TAKİPLİ OLGU SUNUMU

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AMAÇ: Kalça eklemi kondral lezyonlarının tedavisi, derin eklem anatomisi ve eklem kompleks biyomekanik özellikleri nedeniyle birçok güçlük içermektedir. Bu olguda, femur başında geniş osteokondral lezyonu olan hastada, kalçanın güvenli kontrollü dislokasyonu ile otolog osteokondral greftleme tedavisi ve hastanın uzun dönem takibini sunmayı amaçladık.

YÖNTEM: 27 yaşında erkek hasta 2006 yılında kliniğimize sol kalça ağrısı ile başvurdu. Hastanın yapılan fizik muayene ve radyolojik değerlendirmesi sonrasında sol femur başında derin ve geniş bir osteokondral defekt saptandı. (Figür 1) Subkondral kemiğin etkilenmesi, lezyonun boyutu nedeniyle bu hastaya güvenli dislokasyon ile otolog osteokondral greftleme uygulandı.

BULGULAR: Kocher-Langenbeck insizyonu sonrası, trokanterik osteotomi ile kalça disloke edilerek, aynı taraf dizden 3 adet 13 mm, 1 adet 11 mm osteokondral greft alınarak defekt alanı rekonstrükte edildi. (Figür 2) Hastanın postoperatif takibinde herhangi bir komplikasyona rastlanmadı. Hastanın trokanterik fiksasyon için uygulanan vidaları postoperatif 2. yılda trokanterik bursite bağlı olarak çıkarıldı. (Figür 3) Hastanın 8 yıl sonraki kontrolünde sol kalça hareketlerinin açık, kontrol grafisinde eklem aralığının korunduğu görüldü. (Figür 4) (Figür 5)

SONUÇ: Femur başı kondral lezyonlarının tedavisi halen ortopedi pratiği içerisinde ciddi bir problem olarak karşımıza çıkmaktadır. Mozaikplasti, teknik uygulama güçlüklerine rağmen, doğru teknikle ve endikasyonla uygulandığı takdirde uzun dönem takiplerde radyolojik ve klinik açıdan tatminkar sonuçlar sağlamaktadır.

ANAHTAR KELİMELER: Femur başı kondral lezyonu, güvenli dislokasyon, mozaikplasti, otolog osteokondral greft transferi

TERCİH EDİLEN SUNUM ŞEKLİ: Poster Sunum

P58 HIGH PROTEIN DIET INCREASES THICKNESS OF RENAL PARENCHYMA IN RESISTANCE-TRAINED-INDIVIDUALS

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OBJECTIVES: Commercial protein powder or supplements are particularly consumed by resistance-trained individuals. For these individuals, an estimated requirement and recommended dietary allowance (RDA) of good quality protein are 0.66 g and 0.83 g per kg body weight (BW) per day, respectively. The aim of the present study is to examine the effect of high protein intake on thickness of renal parenchyma in resistance-trained individuals in long term.

METHODS: Thirty six healthy resistance-trained male volunteers participated in this study (mean age 26 ± 3.6 years, body mass index 27.1 ± 3.5). Participants were divided into three groups according to daily protein intake/BW: group 1 (n=8): 1.8 g/kg/day, group 2 (n=16): 2.5 g/kg/day and group 3 (n=12): 4 g/kg/day. They have been regularly resistance training on average of 6.5 ± 3.5 hours per week for the last 6 years. Daily protein intake of the subjects was calculated as the sum of dietary intake plus commercially protein powder. Plasma levels of blood urea nitrogen (BUN) and creatinine were measured in venous blood samples. Renal length, width, thickness and cortical thickness were obtained in longitudinal and transverse ultrasonographic scans in prone position by same radiologist. Cortical echogenicity was graded as less than (0), equal to (1) or greater than (2) liver/spleen parenchyma and loss of cortex medulla differentiation (3).

RESULTS: Plasma levels of BUN and creatinine were similar in all groups ($p > 0.05$). Thickness of renal parenchyma in high protein intake (4 g/kg/day) group was significantly higher than in other groups ($p < 0.05$). There was a significant positive correlation between grade of cortical echogenicity and high protein intake ($p < 0.05$). There were also a significant positive correlation between renal cortical thickness and high protein intake ($p < 0.05$). There was no significant correlation between high protein intake and increased levels of creatinine ($p > 0.05$).

CONCLUSION: The results of this study indicate that high protein intake increases the thickness of renal parenchyma in resistance-trained individuals in long term. Daily protein intake in excessive doses and unsupervised protein powder usage can be harmful and irreversible effects on kidney in resistance-trained individuals long term.

KEYWORDS: High protein diet, thickness of renal cortex, renal measurements

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P59 ADOLESCENT ANTERIOR INFERIOR ILIAC SPINE AVULSION FRACTURE OPERATIVE TREATMENT: A 14-YEAR FOLLOW-UP CASE REPORT

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OBJECTIVES: Pelvic apophysis injuries are generally seen in adolescents and encountered in the form of avulsion fractures which occur with the short-term contractions of the muscles that hold apophysis, following a trauma. In general the iliac crest, the anterior superior iliac spine (ASIS) and the pubic bone fractures are frequently seen but anterior inferior iliac spine (AIIS) fractures are rare. These cases are often treated conservatively, surgical treatment is rarely necessary. In this presentation, AIIS avulsion fracture case that had undergone surgery and had been followed for 14 years was aimed to be stated.

METHODS: 16 year old male patient who was suffering from sports injuries that happened 40 days ago was admitted to our clinic in February 2000 with complaints about left hip and groin pain. Physical examination and radiographic evaluation of the patient identified left hip AIIS avulsion fracture. Due to more than 2 cm fracture fragment displacement and the patient being a professional football player who had high functional expectations, surgical treatment was planned. Under general anesthesia, after open reduction, internal fixation was performed with 1 cannulated screw. There were no complications observed at follow-up. Patient returned to training at 3 months postoperatively. 14 years after surgery, the patient admitted to a neurologist with complaints of headache and MRI was required to establish the cause. The patient admitted to our clinic in order to get the confirmation whether his implant was MRI compatible.

RESULTS: On clinical assessment, after 14 years, the patient didn't have any complaints at left hip. Left hip flexion was 120 °, extension was full, abduction was 40 °, adduction was 20 °, flexion internal rotation was 30 ° and flexion external rotation was 40 °. Radiographs of the pelvis were normal. On the patient's functional assessment, modified Harris Hip Score was 100.

CONCLUSION: Pelvic apophysis injuries are rare injuries seen in adolescents usually as avulsion fractures. These injuries are often treated conservatively however may require surgical treatment for professional athletes with a high functional expectations. In this patient who underwent surgery, at the end of the 14-years long follow-up, functional results were found to be close to perfect.

KEYWORDS: Adolescent, avulsion, fracture, AIIS, SIAI, ASIS

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P60 DYNAMIC STABILITY ASSESSMENT OF THE LOWER LIMBS OF KARATE KYOKUSHIN MASTER CLASS ATHLETES

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OBJECTIVES: The aim of the study was to determine the level of stability of the lower limbs in dynamic conditions in Karate Kyokushin master class athletes. We compared the results of the karate athletes with the control group. In the analysis, both the dominant (kicking) limb and non-dominant (supporting) one were taken into account.

METHODS: The study involved 22 Karate Kyokushin master class athletes (13 men and 9 women aged 26.5 ± 3.9). This group consisted mainly of European Championships medalists in various weight categories. Their average training history was 14.6 ± 5.1 years. The control group consisted of 18 healthy, active volunteers (14 men and 4 women aged 21.4 ± 1.2). The measurements of dynamic stabilography were made with the Biodex Balance System (BBS) device. The dispersion of sway in the A/P (anterior/posterior) plane, M/L (medial/lateral) plane and overall stability indicator (OSI) were analyzed. The measurements were made with one leg position on the lower right and left limb successively and consisted of three 30-second repetitions at the second stiffness level of the stabilographic platform. For the purpose of further material development, persons declaring the right lower limb as the dominant one were selected in order to make the test and the control group more homogeneous. The results were analyzed statistically using the U-Mann-Whitney test assuming the significance threshold of $p \leq 0.05$. To assess the correlation, the Pearson's correlation coefficient was used.

RESULTS: The analysis of the results showed a statistically significant difference in the overall stability indicator (OSI) of a non-dominant (supporting) limb between the test and the control groups. The abovementioned dependence concerning the overall indicator was affected mainly by stability parameters obtained in the A/P sagittal plane. A correlation between the training history and the overall stability indicator (OSI) in both limbs of karate athletes was also demonstrated. Namely, the increase in training experience of the athlete correlated with the increase in the stability level of both legs. Other results showed no statistically significant differences.

CONCLUSION: 1. Kyokushin Karate master class athletes are characterized by lower level of stability of a non-dominant (supporting) lower limb in comparison with the control group. 2. The more training history experience the athlete has gained, the higher stability level in both lower limbs they have.

KEYWORDS: Balance, Biodex, Karate, Martial Arts, Stability, Stabilography

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P62 SYNOVIAL LIPOMATOSIS (LIPOMA ARBORESCENS) OF THE KNEE

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OBJECTIVES: The goals of this retrospective study are to emphasize that the patients who have non surgical treatments for several times due to the massive swelling in their knees should be considered the SL and this pathology is treatable by arthroscopic synovectomy.

METHODS: Seventeen patients (four female and thirteen male), were evaluated retrospectively from May 2009 and April 2013. Mean age for female group was 34,75(range between 32 to 41) and for male group was 34,23 (range between 26 to 46). Mean follow-up period was 14,76 months(range between 6 months and 38 months). Mean duration of compliance was 26,23 months (range between 9 to 96) months. All patients rated by Knee Society Score preoperatively and postoperatively arthroscopic synovectomy, performed by using radiofrequency ablation and arthroscopic shaver for treatment procedure. Patients were discharged at the end of the one day hospitalization. Postoperatively all patients were allowed to full range of motion and full weight-bearing within one day after surgery.

RESULTS: Patients were evaluated preoperatively and postoperatively using the Knee Society Score. The mean Knee Society Score was 67,82 preoperatively and 88,23 was postoperatively. There is significant difference between preoperative and postoperative Knee Society scores.(p <0.05) At the end of the three months, MRI studied and there was no clue of recurrence except two patients. All patients returned to their daily activities with full of range of motion and without swelling of the affected knee joints. . At the microscopic histological studies were reported as synovial lipomatosis for all patients

CONCLUSION: Arthroscopic synovectomy is the safe and dramatically effective method of treatment in synovial lipomatosis with less complication, curability and retrieving patients full range of motion with no limitation in their daily activities

KEYWORDS: Arthroscopic synovectomy, lipoma arborescens, suprapatellar effusion, synovial lipomatosis

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P63 SERIOUS ANTERIOR CRUCIATE LIGAMENT INJURIES AT THE INDIVIDUALS WHO HAVE IRREGULAR SPORT ACTIVITY ON THE ARTIFICIAL PLAYING SURFACES

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OBJECTIVES: The goals of this study that to present the individual's features who have serious Anterior Cruciate Ligament (ACL) injuries of the knee that performing irregular sportive activities on the Artificial Playing Surface (APS).

METHODS: 87 patients who underwent arthroscopic ACL reconstruction Between April 2011 and March 2014, were evaluated. All patients questioned about the injury mechanisms, shoe types, frequency of sporting activity,time of warm-up exircises before sportig activity, types of APS, body mass index(BMI), return to work, frequency of return to previous sportive activity after surgery and rehabilitation period.

RESULTS:

CONCLUSION: Irregular sportive activity with insufficient equipment on the artificial playing surface causes the serious ACL injuries that have to managed by surgical procedures resulting with loose of working time due to indispensable hospitalisation and rehabilitation period and significant economical loses.

KEYWORDS: Artificial Sporting Surface, Anterior Cruciate Ligamant, Irregular sportive activity

P64 PERONEAL TENDOSCOPY

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OBJECTIVES: Peroneal tendon pathology should be within the differential diagnoses of patients who are admitted to the hospital with posterolateral ankle pain. Peroneal tendoscopy is a minimally invasive choice for the diagnosis and the treatment of peroneal tendon pathologies. Aim of this study is to discuss the role of tendoscopy within the diagnosis and the treatment of peroneal tendon pathologies.

METHODS: From 2006 to 2012, 18 patients with retrofibular pain are included in this study. This study had been planned prospectively. For the patients who had been pre-diagnosed as "peroneal tendinopathy" with physical examination, X-ray and MRI findings, "peroneal tendoscopy" had been performed diagnostically. After diagnostic peroneal tendoscopy, patients were definitively treated either with tendoscopy or with open surgery.

RESULTS: We have included 18 patients with retrofibular pain, 13 were female and 5 were male. The mean age was 46.8 (29-71). Preoperatively taken MRI scans showed talar osteochondral lesions (TOL) in 8 patients, peroneal tenosynovitis in 8 patients (3 of them were with TOL), suspected peroneal tendon rupture in 3 patients (2 of them were with TOL, accessory peroneal tendon in 1 patient). MRI scans of 5 patients were normal regarding peroneal pathology, these patients were operated according to physical examinations and the findings. 13 of 18 patients had accompanying anterior and posterior ankle pathologies. The most common pathology which had been detected in 8 patients with retrofibular pain was talar osteochondral lesion (TOL). The other 5 patients had no concomitant pathology. During peroneal tendoscopy, accessory peroneal tendon in 6 patients and distal insertion of peroneus brevis tendon in 3 patients had been detected and excised minimally invasively. In 4 patients, peroneal tendon rupture had been detected and excision/repair/tenodesis had been performed, in 3 patients tenosynovectomy had been performed for peroneal tenosynovitis, duplication had been performed in 1 patient, tubulisation had been performed in 1 patient and vincula excision had been performed in 1 patient.

CONCLUSION: Peroneal tendoscopy is a useful procedure to diagnose and to treat the pathology of peroneal tendons. According to our theory, patients could have a sensation of fullness within their ankle joints with the presence of accessory muscle and distal insertion of peroneus brevis tendon within the superior peroneal retinaculum and may put their ankle in slight inversion position. This positional change within the ankle may disturb the ankle biomechanics and may be one of the causes of osteochondral lesions of the talus.

KEYWORDS: Accessory peroneal tendon, peroneal tendons, tendoscopy, tenosynovitis

P65 EFFECTS OF GLUCOSAMINE-CHONDROITIN SULFATE, GLUCOSAMINE-CHONDROITIN SULFATE-METHYL-SULFONYLMETHANE, OR PLACEBO IN PATIENTS WITH FIRST AND SECOND GRADE OF KNEE OSTEOARTHRITIS: A DOUBLE BLIND RANDOMIZED CONTROLLED STUDY

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OBJECTIVES: Combination of glucosamine-chondroitin sulfate is often prescribed for patients with first and second grade Kellgren-Lawrence osteoarthritis (OA). Numerous studies have reported significant efficacy of this supplement and also their combinations with methylsulfonylmethane (MSM) for the treatment of OA. However, controversies emerged regarding the effectiveness of these supplements. This current study evaluated the efficacy of glucosamine-chondroitin sulfate and glucosamine-chondroitin sulfate-MSM on improvement of patients with first and second grade knee OA.

METHODS: This study was a double blind, randomized controlled clinical trial on 147 patients with first and second grade (Kellgren-Lawrence) of knee OA. Subjects were allocated by permuted block randomization to three groups, either glucosamine-chondroitin sulfate (GC) (n=49), or glucosamine-chondroitin sulfate-MSM (GCM) (n=48), or placebo (n=50). The GC group received 1500 mg glucosamine + 1200 mg chondroitin sulfate + 500 mg saccharum lactis; GCM group received 1500 mg glucosamine + 1200 mg chondroitin sulfate + 500 mg MSM; while placebo group received three matching capsules of saccharum lactis. These drugs were administered once a day for three consecutive months. VAS and WOMAC score were measured at the baseline, then at 12th week after treatment. Data was analysed by using t-independent test.

RESULTS: At week 12, WOMAC score in placebo group was significantly higher than that in GCM group (mean difference 7.15, CI 12.06-2.23, $p=0.005$), and it was also higher in GC group compared to GCM group (mean difference 8.17, CI 13.49-2.84, $p=0.003$). Whereas VAS score at week 12 in placebo group was significantly higher compared to that in GC group (mean difference 0.18, CI 1.18-0.19, $p=0.007$) and to that in GCM group (mean difference 0.86, CI 1.37-0.35, $p=0.001$). However, there was no significant difference of WOMAC score at week 12 between placebo and GC groups ($p=0.681$), and of VAS score between GC and GCM groups ($p=0.497$).

CONCLUSION: Combinations of glucosamine-chondroitin sulfate and glucosamine-chondroitin sulfate-MSM did not improve WOMAC and VAS scores in patients with grade I and II of knee osteoarthritis, when compared with placebo.

KEYWORDS: Chondroitin sulfate, glucosamine, methylsulfonylmethane, osteoarthritis

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P67 AVERAGE THICKNESS OF THE FOUR FOLDED HAMSTRING TENDONS WHICH WE USE IN ACL RECONSTRUCTION

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OBJECTIVES: The purpose of this study is to determine the average thickness of 4 folded hamstring tendons (autograft) which we used on our patients who had tendon reconstruction because of ACB rupture diagnostic.

METHODS: Between the dates of January 2009 and December 2013, patients who had tendon reconstruction with hamstring autograft because of ACB rupture diagnostic were evaluated retrospectively in Yıldırım Beyazıt University Ankara Atatürk Training And Research Hospital – Orthopaedics and Trauma Clinic. 258 patients who had 4 folded hamstring tendon which was preferred usually, were included into the study but 26 patients were not included into the study who had different autograft applications and direct allografts usages.

RESULTS: 242 of the 258 patients who were included into the study were males and remaining 16 were females. Average age was 28.7 (14-52). The average thickness of the 4 folded hamstring tendons (semitendinosus and gracilis tendons) of the patients was observed as 7.9mm (6-10mm). The tendon thickness of 47 patients were measured below 7mm. For those patients, the tendon thickness was increased by combining allografts with autografts.

CONCLUSION: The average thickness of the 4 folded hamstring tendons what we have used was 7.9mm. By considering the average graft thickness, it may be beneficial to make the planing by thinking about different configurations or keeping allografts ready for the cases which may require thicker grafts

P68 CARTILAGE REPAIR APPROACH AND TREATMENT CHARACTERISTICS IN THE KNEE JOINT: A TURKEY SURVEY

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OBJECTIVES: To determine the approaches of Turkish Orthopaedic and Traumatology specialists towards the treatment of isolated focal cartilage lesions in the knee joint.

METHODS: An online questionnaire consisting of 21 questions was prepared and sent to a sample group comprising members of the Turkish Orthopaedics and Traumatology Association (TOTBID) and the Turkish Sports Injuries Arthroscopy and Knee Surgery Association (TUSYAD). The responses of 129 members were evaluated.

RESULTS: Of the total respondents to the questionnaire, approximately 1/3 worked in a private hospital, 1/3 in a university, 15% in a state hospital and 13% in a training and research hospital. An arthroscopic approach was applied fewer than 50 times per year by 20% of respondents, 50-100 times by 40%, 100-200 times by 24% and more than 200 times by 17%. The upper age limit for surgical repair of cartilage was reported as 50 years by 52% and 40 years by 25%. Similarly, the body mass index (BMI) upper limit was stated as below 30kg/m² by 58% and below 25kg/m² by 22%. The best results were thought to come from femoral condyle lesions by 85% of the surgeons. In patients with high activity expectations, the most frequently applied methods were 60% microfracture and 40% mosaicplasty. For lesions between 2.5 and 4cm² in size, mosaicplasty was applied most often, followed by matrix-supported chondrocyte implantation. In lesions larger than 4cm², MACI was the most common procedure. Although 70% of surgeons had never applied the matrix-supported microfracture method, 30% considered that it could be a choice for individuals with a high activity level. A return to sports following cartilage repair was accepted as 6 months for microfracture (86%), 9 months for mosaicplasty (63%), and 12 months for matrix-supported autologous chondrocyte implantation (73%).

CONCLUSION: As there was a similar distribution of experienced and less experienced surgeons among the respondents, the results obtained from the questionnaire are significant in terms of reflecting the general perspective in the country. That mosaicplasty was the first choice for lesions over 2.5cm² in individuals with a high activity level may be related to poor long-term results of microfracture in large defects. Although it is not widely used in our country and social security repayments are limited, it was noteworthy that for defects over 4cm², the first choice was second generation autologous chondrocyte implantation. Similarly, it is significant that a third of the surgeons stated matrix-supported microfracture as a choice for high activity patients, although it is not often applied. Decision makers in institutions making repayments should take into account that large defects require methods which are relatively more expensive and need high technology. The results obtained here of an upper age limit of 50 years and BMI below 30kg/m² for cartilage repair are consistent with literature. A return to sports is planned as 6 months at the earliest and a longer period after more complex surgery.

KEYWORDS: Questionnaire, cartilage, focal, knee, treatment

P69 COMPARISON OF SHORT TERM RESULTS OF TYPE IIB2 MIDDLE THIRD CLAVICULAR FRACTURES TREATED WITH FIGURE OF EIGHT BANDAGE AND LOCKED PLATE FIXATION

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OBJECTIVES: Most acute displaced midshaft clavicular fractures conventionally have been treated nonoperatively with the expectation of a high probability of fracture union, good functional outcomes, and a high level of patient satisfaction . However, the outcome of nonoperative treatment is not as favorable as once thought and there has been a growing trend to treat these fractures surgically We aimed to evaluate and compare the short term results of conservative treatment and locked plate fixation in the treatment of type IIB2 clavicular fractures according to Robinson classification in this study.

METHODS: Thirty eight patients with type IIB2 clavicular fractures according to Robinson classification were retrospectively reviewed. 20 patients who were treated conservatively were enrolled as group A and 18 patients who were operated with locked plate and screws were enrolled as group B. All patients were evaluated with Constant and Oxford scores in their last follow up control. For the patients that were treated conservatively (Group A) figure of eight bandage were applied for six week. Patients(Group B) were operated under general anesthesia in the beach chair position. A straight incision was made over the fracture line. Butterfly or free fragments in comminuted fractures were fixed to the main fragment with a lag screw in 3 patients before fracture reduction and plate fixation. Fracture reduction was performed with taking care of minimal periosteal stripping. After reduction of the main fragments, titanium alloy, locked anatomic compression plate were applied on the superior surface of the clavicle. A minimum of six cortices were fixed with 3.5 mm locked cortical screws on the medial and lateral sides of the fracture. We did not need any Auto- or allografts during the surgery. Statistical analysis was performed between the scores of two groups. Conservative and surgical treated groups Oxford scores and Constant scores had normal distribution. For this reason Student's t test, and Non-parametric version of Student's t test Mann Whitney U test were performed. 95% confidence interval and $p < 0.05$ was considered significant as statistically.

RESULTS: Mean follow up period is 18 months (12-24 months). At the last follow-up, mean Constant score is 79.5 (98-43) and mean Oxford score was 46.35(49-44) for group A. In group B mean Constant score is 89.3(100-77) and mean Oxford score is 46,6(48-44) at the last follow-up. There were no patients who require any revision surgery in group B. Bone healing was detected in all fractures radiologically in both groups . There was no statistically significant difference between Oxford scores of the two groups ($p=0,570$). There was statistically significant difference between Constant scores of the two groups whereas results of Group B were better than group A ($p=0,013$) Surgical treatment with locked plate fixation in type IIB2 clavicular fractures according to Robinson Classification, can be the first treatment choice with better cosmetics, lower complication rate, and better outcomes.

CONCLUSION: Surgical treatment with locked plate fixation in type IIB2 clavicular fractures according to Robinson Classification, can be the first treatment choice with better cosmetics, lower complication rate, and better outcomes.

KEYWORDS: Clavicular midshaft fracture, figure of eight bandage ,locked plate fixation

P70 THE MEDIAL APPROACH FOR ARTHROSCOPIC-ASSISTED FIXATION OF LATERAL TIBIAL PLATEAU FRACTURES

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OBJECTIVES: Tibial plateau fractures are complex injuries involving the weight bearing surface of the tibia. Open reduction and internal fixation with plates and screws is an established method of treatment for complex fractures (Schatzker types V–VI). Arthroscopically assisted techniques have been used successfully for simple fractures (Schatzker types I–III). Historically, arthroscopic-assisted reduction for lateral tibial plateau fractures have been performed through a laterally based metaphyseal window. We found this technique to have several limitations, including bone grafting through a short subchondral tunnel. Also, there was a risk of lateral vascular supply distribution. We proposed that medial window approach technique would provide a longer tunnel for subchondral support and aid in fracture reduction. We aimed to present our initial experiences in first seven cases approaching lateral tibial plateau fractures through a medial metaphyseal window.

METHODS: Our series involves 7 patients with 5 Schatzker type II and 2 Schatzker type III lateral tibial plateau fractures treated by a single surgeon, using a medial approach for the arthroscopic assisted fixation. There were 5 males and 2 females. The average age at the time of surgery was 34.2 years, (29-52). All of the patients underwent plain radiography and CT scanning in each knee. Time from injury to surgery was 7.2 days (4-12 days). Length of follow up was 9 months (6-22 months). There was 2 lateral meniscus tear that treated with partial meniscectomy and 1 MCL injury that treated conservatively. Surgery was performed in four steps. First step was diagnostic arthroscopy of the injured knee, second step was reduction of the fracture using a cylindrical tube with fluoroscopic guidance, third step was the arthroscopic verification of the fracture reduction, and finally percutaneous osteosynthesis of the fracture. Care is taken to keep the flow to gravity or, if using a pressure controlled pump, to set the pressure at approximately 40 millimeters of mercury. This will help alleviate the risk of compartment syndrome. Compartment firmness should be continuously monitored throughout the procedure.

RESULTS: No complications related to the procedure were observed. All patients reported a relevant reduction in pain, were able to mobilize with full weight bearing in the average 12 weeks (9–15 weeks). No secondary loss of reduction was observed in radiological controls; No revision surgery was required. Functional assessment according to HSS (hospital for special surgery) of the patients were excellent in 5 cases, good in 2 cases.

CONCLUSION: Because depressed fragments are elevated from distal cortical windows, the importance of an intact, or easily restored, “cortical envelope” is paramount. In most Schatzker Type II and III fractures, the cortical envelope is either intact or can easily be restored with a clamp. The main advantage of medial approach for these fracture patterns is the creation of a long tunnel for subchondral support, the ease of fracture reduction and saving the lateral vascular supply.

KEYWORDS: Lateral, tibial, plateau, arthroscopic, treatment

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P71 GENÇ FUTBOLCULARDA AŞIRI KULLANIM YARALANMALARI

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AMAÇ: Genç futbolcular; özellikle okul döneminde hem okul, hem de futbolu bir arada yapmaya çalıştıkları dönemlerde, birçok yaralanma ile karşı karşıya kalmaktadırlar. Sürekli olarak, yarışma şeklinde takım seçmeleri, okul maçları, akademi ligi maçları ve yaş grubu Milli Takım maçları nedeniyle genç yaşta yüksek yoğunluklu antrenman yapmaları sonucu üzerlerine aşırı derecede yük binmektedir. Amacımız 1 sezon boyunca alt yapı oyuncularımızda oluşan aşırı kullanım yaralanmalarını saptamak ve bu yaralanmalardan korunmada yapılması gerekenleri hem sporculara hem de antrenörlere anlatmaktır.

YÖNTEM: Bursasporun Akademi liglerinde oynayan 13-19 yaş grubundaki 145 oyuncusu 10 ay boyunca (Ağustos 2013-Mayıs 2014) izlendi. 45 sporcuda aşırı kullanıma bağlı olarak gelişenve sportif çalışmalara en az 2 gün ara verdimeyi gerektiren yaralanmalar saptandı.

BULGULAR: yaralanmaların çoğunluğunu alt ekstremitte üst grup (Hamstring, Quadriceps) adaleler oluştururken; adductor bölge yaralanmaları da sık görüldü. En çarpıcı tespit 3 sporcuda epifiz avulsiyon kırığı görülmesi idi.

SONUÇ: Genç sporcularda aşırı kullanıma bağlı yaralanmaya neden olan bir çok risk faktörü vardır. Önceki yaralanma, anatomik malalignment, aşırı esneklik, kemik mineral yoğunluğu azlığı, fizlere aşırı yük gelmesi, yüksek antrenman yoğunluğu, yeterli dinlenmeye zaman ayırmama gibi. Spora özgü tekrarlayıcı hareketlerin sınırlandırılması, antrenmanların çeşitlendirilmesi, sezon öncesi kondüsyon programının iyi yapılması, çalışma öncesi nöromuskuler antrenmanın iyi yapılması ,antrenmanların iyi monitorize edilerek hangi durumlarda yaralanmanın olduğunun saptanması , bu tip yaralanmaları önlemede önemlidir.

ANAHTAR KELİMELER: Aşırı kullanım, Genç futbolcu, Hamstring yaralanması

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P72 EFFECT OF PLYOMETRIC TRAINING ON PREVENTION OF ACL INJURIES IN FEMALES VOLLEYBALL PLAYERS

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OBJECTIVES: To verify the effects of plyometric training on prevention of ACL injuries with lower limb kinematics, eccentric hip and knee torques, and functional performance.

METHODS: 36 females volleyball players were divided into a training group (TG no:18) that carried out the plyometric training for 12 weeks, and a control group (CG no:18) that carried out no physical training. 24 plyometric training sessions during approximately 12 weeks with 3 sessions, 30 minutes per week on alternate days. Lower limb kinematics (maximum excursion of hip adduction, hip medial rotation, and knee abduction during the single leg squat), eccentric hip (abductor, adductor, medial and lateral rotator) isokinetic peak torques and knee (flexor and extensor) isokinetic peak torques, and functional performance (triple hop test and the 6-m timed hop test).

RESULTS: After 12 weeks, only the TG significantly reduced the values for the maximum excursion of knee abduction ($P=0.01$) and hip adduction ($P=0.001$). Similarly, only the TG significantly increased the eccentric hip abductor ($P=0.001$) and adductor ($P=0.01$) torques. Finally, only the TG significantly increased the values in the triple hop test ($P=0.001$) and significantly decreased the values in the 6-m timed hop test ($P=0.001$) after intervention.

CONCLUSION: Plyometric training alters lower limb kinematics and increases eccentric hip torque and functional performance, suggesting the incorporation of these exercises in preventive programs for ACL injuries.

KEYWORDS: ACL prevention, functional performance, plyometric training

P73 OVERUSE INJURIES IN YOUTH FOOTBALL PLAYERS

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OBJECTIVES: Youth football players encounter many injuries especially during the school period when they are trying to make school and football together. Due to consistent team selection in competition, school matches, academy league matches and age group national team matches, as a result of high intensity training at a young age they are extremely overloaded.

METHODS: 145 football players of 13-19 age group playing in the academy league of Bursaspor have been observed for 10 months (August 2013-May 2014) ,injuries caused by overuse and that require at least 2 days break from sports activities.

RESULTS: Were determined on 45 football players while lower extremities upper group (hamstring, quadriceps) muscles constituted the majority of the injuries; In the adductor region were also seen often. The most striking finding is epiphyses avulsion fractures on the 3 players.

CONCLUSION: There are many risk factors causing injuries related to overuse in youth athletes. Such as previous injuries, anatomic malalignment, extreme flexibility, loss of bone mineral density, overload to physes, high intensity training, when rest is not adequate, and not appropriate recovery. Limitation of sports specific repetitive movements (eg, pitching limits); scheduled rest periods and recovery time; such modifications to be individualized based upon the sport and the athlete's age, growth rate, readiness; optimal preparation of the preseason conditioning program; well neuromuscular training before workout; exact monitoring of the training and determination of the occasions on which injuries occur are important in preventing such injuries.

KEYWORDS: Football players, overuse injuries, youth

POSTER BİLDİRİLER DEVAMI

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P76 VOLUNTARY GLENOHUMERAL JOINT LUXATION IN CHILDREN : TWO CASES

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OBJECTIVES: Voluntary shoulder dislocation is a rare pathology and can be seen in childhood. We aimed to present, diagnosis and treatment of two girls with Voluntary Glenohumeral Joint Luxation(VGJL) with seven and nine years old, in this study.

METHODS: Physical examination of both shoulders were performed carefully and standard Antero-posterior (AP) X-ray radiography obtained and for identify any soft tissue (like labral tears, rotatuar cuff tears, capsular pathologies, etc.) pathologies Magnetic Resonance Imaging (MRI) was performed. While the seven years old girl luxate her shoulder to anterior the other with nine years old was luxating her shoulder inferior, voluntarily with no pain. No other direction, the both two girls could perform the luxation. No connective tissue or genetic disorders were detected for two children.The familial history was investigated and hiperelasticity-like history obtained at the second degree relatives of both children. In treatment, physical therapy program was planned for two children.

RESULTS: At the x-ray AP radiography demonstrated no clue of abnormality about bony structure. However, at the nine years old girl, the MRI images showed the labral tear localised at the inferomedial part of the labrum while seven years of girl had no pathology showed at MRI images. Both shoulders of the patients, except in the case of voluntary shoulder luxation, would normally use and all the active full range of motion of both glenohumeral joints. Pain was not a complain; even with or without demonstrating the controlled voluntary luxation for both two girls. Physical therapy performed and at the end of the one year of follow-up, by phone consultating with parents of two children, it was recorded that the repetition of voluntary shoulder luxation was decreased.

CONCLUSION: The VGJL is a rare but easily managed antity without surgery.Awarness of family and recommendations about the pathology is important.

KEYWORDS: Glenohumeral Joint, Childhood Shoulder,Voluntary Luxation,

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P77 MEDİAL MENİSKÜSE SAPLANMIŞ HALDE BULUNAN İNTRA-ARTİKULER YABANCI CİSİMİN ARTROSKOPİK OLARAK ÇIKARILMASI: OLGU SUNUMU

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AMAÇ: Yumuřak dokuda yabancı cisim penetrasyonları ile oldukça sık karřılařılmasına rađmen intra-artikuler yabancı cisim penetrasyonu nadir olarak karřımıza çıkmaktadır. Artroskopik giriřimin en önemli avantajı intra-artikuler yabancı cisim çıkarılmasında minimal invaziv bir cerrahi olmasıdır. Bu olgu sunumu intra-artikuler yabancı cismin çıkarılmasının artroskopi ile bařarılı bir şekilde yapılabileceđini göstermektedir.

YÖNTEM: On bir yařında çocuk hasta iki hafta önce sađ dizi üzerine dűşme sonrasında dikiř iđnesinin batması sebebi ile gittikçe artan diz ađrısı ve artan eklem şiřliđi sebebi ile kliniđimize bařvurdu. Yapılan fizik muayenede sađ dizde efüzyon ve ısı artıřı olduđu görüldü. Diz ekleminin yaklařık 90 dereceden sonraki fleksiyon hareketinde ađrı meydana geliyordu. Çekilen direkt grafide intra-artikuler yerleřimli yabancı cisim olduđu görüldü. Bu yabancı cismin metal olma olasılıđının yüksek olmasından dolayı hastaya ameliyat öncesi magnetik rezonans görüntüleme yapılmadı. Morbiditeye neden olacađı düşünülerek açık eksizyon yerine minimal invaziv bir giriřim olan artroskopik planlandı.

BULGULAR: Diz eklemi glisinli mayi ile doldurulmadan önce kompartmanların diagnostik muayenesi yapıldı. Medial tibiofemoral kompartmanda medial menisküs posterior boynuzuna saplanmış halde bulunan kırılmış dikiř iđnesi tespit edildi. Artroskopik klemp ile medial portalden yabancı cisim dikkatli bir şekilde kondral yüzeylere zarar vermeden çıkarıldı. Skopi kontrolü ile yabancı cismin tamamen çıkartıldıđı tespit edildi. Eklem içi basınçlı sıvı ile doldurulup tekrar artroskopik muayene yapıldı. Medial menisküste instabilitenin veya müdahale gerektirecek herhangi bir yırtıđın olmadıđı görüldü. Septik artrit olma olasılıđı sebebiyle sinoviyal dokulara artroskopik debritleme yapıldı. Eklem içi bol glisinli sıvı ile yıkanarak lavaj yapıldı. Ameliyat sonrası çekilen anteroposterior ve lateral radyograflerde eklem içerisinde herhangi bir radyo-opak materyal görülmedi. İna-operatif eklem sıvısından gönderilen kültür materyalinde üreme olmadı. Ampirik intravenöz antibiyotik tedavisi verilen hasta ameliyat sonrası ikinci günde taburcu edildi. İki hafta sonraki kontrolde yara yeri problemi, efüzyon artıřı yoktu. Ameliyat sonrası bir yıl sonraki muayenesinde ise eklemde herhangi bir kilitlenme veya bulunmamakla birlikte instabilite bulunmamakla birlikte eklem hareket açıklıđı normaldi. Olgunun Tegner-Lysholm skoru ise 100 olarak tespit edildi.

SONUÇ: Penetran travma sonrası eklem içindeki yabancı cisimler artroskopik tekniklerle bařarılı bir şekilde çıkarılabilmektedir. Bu cisimler enfeksiyon ve kondral hasar gibi komplikasyonlara zemin hazırlar. İna-artikuler yabancı cisimlerin çıkarılmasında kullanılan artroskopi, minimal invaziv olması, irrigasyona ve debritleme olarak sađlaması nedeniyle öncelikli olarak tercih edilmektedir.

ANAHTAR KELİMELELER: Artroskopi, yabancı cisim, penetran

P78 THE EFFECT OF BOLDENON UNDECYLENATE USAGE ON RENAL CORTEX IN RESITANCE-TRAINED MALE

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AMAÇ: Boldenone undecylenate is a synthetic derivative of the testosterone. It is mainly used by bodybuilders to increase appetite, the rate of gaining muscle mass and losing fat, and to improve strength. The aim of the present study was to investigate the effect of boldenone undecylenate on renal cortex in well resistance-trained male.

YÖNTEM: Twenty two healthy, resistance-trained male volunteers (mean age 25 ± 4.2 , body mass index 27.8 ± 3.71) were included in the study. Participants have been taking boldenone undecylenate for the purpose of increasing performance with their own decision without enough information about potential side effects of the drug. Participants were divided into three groups according to scheme of steroid usage as follows: group 1 (n=8, intramuscular 500 mg testosterone enanthate, intramuscular 400 mg nandrolone decanoate and oral 40 mg methandrostenolone for 12 weeks), group 2 (n=7, intramuscular 500 mg testosterone enanthate, intramuscular 300 mg nandrolone decanoate and intramuscular 300 mg boldenone undecylenate for 16 weeks) and group 3 (n=7, no steroid intake). Participants have been regularly resistance training on average of 6.5 ± 3.5 hours per week for the last 6 years. All participants were having high protein intake (2.86 ± 0.64 gr/day). Plasma levels of blood urea nitrogen (BUN) and creatinine were measured in venous blood samples. Renal length, width, thickness and cortical thickness were obtained in longitudinal and transverse ultrasonographic scans in prone position by same radiologist. Cortical echogenicity was graded as less than (0), equal to (1) or greater than (2) liver/spleen parenchyma and loss of cortex medulla differentiation (3).

BULGULAR: Plasma levels of BUN and creatinine in group 2 were significantly higher than in levels in other groups ($p < 0.001$). Thickness of renal parenchyma and cortical echogenicity in both group 1 and 2 were significantly higher than that in group 3 ($p < 0.001$). Moreover, thickness of renal parenchyma and cortical echogenicity in group 2 were significantly higher than that in group 1 ($p < 0.001$).

SONUÇ: The results of this study indicate that steroid usage, particularly the schemes including boldenon undecylenate increases echogenicity, thickness of renal parenchyma and cortical echogenicity in resistance-trained individuals. Steroids in excessive doses can be harmful and irreversible effects on kidney.

ANAHTAR KELİMELEER: Boldenon undecylenate, renal cortex, steroid usage

P79 ARTHROSCOPICALLY-ASISSTED ACHILLES TENDON REPAIR; LONG-TERM RESULTS

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OBJECTIVES: The ruptures of the Achilles tendon (AT) are relatively common. Since there is no consensus on the best method of the repair of the AT; the treatment is determined on the preference of the surgeon and the patient. The study evaluating the cadaveric and short term clinical results done by our clinic in 2002, has shown us that arthroscopically Achilles tendon repair can be good choice in achilles tendon ruptures.

METHODS: Fortyfour patients who underwent arthroscopically assisted achilles tendon repair during 1997-2011 in Osmangazi University Orthopaedics and Traumatology Department were retrospectively observed. The mean follow-up time was 69,7 months. One of patients had bilateral rupture. The diagnosis was based on loss of plantar flexion strength, palpation of the gap in the tendon, and a positive Thompson test. MRI and USG were used when needed. The ruptures were left-sided in nineteen patients and right-sided in twentysix. The cause of the rupture was recreational sports activity in thirtyeight, fall from height in four, missing a step in a staircase in two. Return the regular activity, ankle range of motion as compared with the opposite side, calf circumference, and ability to walk and stand tiptoe were recorded. All patients were operated on within 2-32 days after the rupture. Thirtysix operations were performed under spinal anesthesia and eight operations were performed under general anesthesia . Tourniquet was always used. Before starting the procedure, the rupture site and location of the gap are marked. Using the common videoarthroscopic instruments, a 70 degrees scope was inserted into the AT through the stab incision made previously, and the torn ends of the tendon were visualized with plantar flexion an extension of the ankle. After the visualization of the torn ends of the tendon and repair by the technique of Ma and Griffith care was focused to contact the ends of the tendon anatomically; then the sutures were knotted. A short leg circular cast with the ankle in slight plantar flexion was applied. American Orthopaedics Foot-Ankle Society (AOFAS) score was used to evaluate the long-term results.

RESULTS: All patients had satisfactory results that no reruptures had occurred. No significant difference in range of motion of the ankle and calf circumference between the opposite sides was observed in any patient. All patients could walk and stand on tiptoe. AOFAS mean score was 94.5 (65-100). The interval from injury to return to regular work and activities was 8-10 weeks. All the patients were able to return back to their activity level before surgery. In three patients temporary sural hypoesthesia, in one patient permanent sural hypoesthesia and in one patient wound enfection appeared. No sensory deficit was detected in the temporary sural hypoesthesia patients after postoperative second year controls. Medical care was supported to the patient with the wound enfection and the enfection was under control in the early stages.

CONCLUSION: In summary; arthroscopically-assisted percutaneous repair of AT appears to overcome some certain problems of open, conservative and percutaneous techniques; but the neurovascular structure damage risk especially the sural nerve remains a potent problem. Accurate knowledge of the anatomy appears to be a solution. Novel percutaneous repairs have been promising to minimize the risk of sural nerve damage.

KEYWORDS: Achilles tendon, arthroscopy, Ma and Griffith

P81 DELAYED PULMONARY EMBOLISM FOLLOWİİG ACHILLES TENDON REPAIR: A CASE REPORT

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OBJECTIVES: It is well known that venous thromboembolism is a common complication after lower limb injuries which requires long term immobilization, however venous thromboembolism prophylaxis after achilles tendon rupture is stil controversial. In this report our aim is to present a case of pulmonary embolism which developed 47 days after surgical repair of achilles tendon rupture and diagnosed factor V leiden heterozygous mutation.

METHODS: Case presentation: A 28 – years- old man was admitted to emergency department with left heel pain and he could not bear weight on it. Achilles tendon rupture was confirmed with physical examination and MRI and patient operated under the spinal anesthesia. Tendon was repaired with the modified Kesler technique. Patient was cast-immobilized and ambulating with crutches and rested for 47 days at home, when he was admitted to emergency department again with acute severe dyspnea, pain on right side, hemoptysis. There was no chronic disease history in in the patient's anamnesis except migraine diagnosis. There were slight inspiratory rales in right lower lobe in auscultation of respiratuary system examination. Cardiovascular system and abdomen examination were normal. Plasma concentration of D-dimer was 1227 µg/mL in the laboratory evaluations. Patient was diagnosed pulmonary embolus (PE) by ventilation/perfusion lung scan. Result of detailed evaluation, genetic analysis showed that patient has factor V leiden heterozygous mutation. Patient hospitalized in Department of Chest Diseases and low-molecular-weight heparin was used to treat and 5 mg orally Warfarin was used for six months.

RESULTS:

CONCLUSION: The incidence of deep venus thrombosis (DVT) and PE after Achilles tendon rupture were highly variable in the literature. This could depend on different designs used in studies. The most recent antithrombotic guidelines suggested no DVT prophylaxis for this type injuries. Existing orthopaedic guidelines does not provide optimal DVT/PE prophylaxis for injuries under the knee requires immobilization. Further research is needed to investigate the benefits of DVT prophylaxis on patients following Achilles tendon rupture.

KEYWORDS: Achilles tendon rupture, pulmonary embolism, factor V leiden mutation

P82 ARTHROSCOPIC RECONSTRUCTION OF CHRONIC ISOLATED POSTERIOR CRUCIATE LIGAMENT INSTABILITY IN A PROFESSIONAL DANCER : A CASE REPORT

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OBJECTIVES: Chronic isolated injuries of the posterior cruciate ligament (PCL) are very rare in the literature. PCL injuries are often presented undiagnosed because of the weak signs of the injury compared to the anterior cruciate ligament (ACL) injuries. We report the surgical outcome of arthroscopic reconstruction of the chronic isolated PCL rupture with ipsilateral autologous hamstring tendon in a professional Caucasian dancer.

METHODS: A 21-year-old male professional Caucasian dancer presented severe instability without any pain in his right knee lasting for one year. The patient did not describe any specific traumatic event but his both knees received repetitive direct pretibial trauma during hyperflexion of the knee while landing to the floor. At the physical examination, posterior sagging of the tibia was observed on the affected side at 90° of knee flexion and step off test and posterior drawer test were positive preoperatively under general anesthesia. The Tegner Lysholm score was evaluated as 59 (poor). A magnetic resonance image (MRI) revealed the isolated total rupture of PCL. The treatment of choice was arthroscopic single bundle reconstruction of PCL with ipsilateral autologous hamstring tendon. A standard arthroscopic exploration of the joint was performed preoperatively and we didn't observe any meniscal, cartilage or ligamentous lesion. Anteromedial and anterolateral portals were made in order to visualize the posterior cortex of the tibia with a 70 degree scope. Intra-operative fluoroscopy was used to confirm proper tunnel position. During postoperatively first week, the patient was allowed to mobilize nonweight bearing with the use of two crutches without functional knee brace. Quadriceps musculature and passive range of motion was trained.

RESULTS: At the 6 month- follow-up, the patient achieved full symmetric restoration of motion. He had returned to full daily activities. The Tegner Lysholm score was evaluated as 95 (excellent) postoperatively. Functional examination of the right knee revealed 140° of flexion, and full knee extension. No posterior sagging was observed and step off test and posterior drawer test was negative. The complaint of instability was disappeared. At 1-year follow-up, clinical findings were unremarkable, with no sign of re-rupture and he returned to his professional career.

CONCLUSION: Surgical reconstruction technique of the PCL and associated rehabilitation protocols has not yet been fully standardized and much work still has to be done optimizing correct treatment of PCL injuries. The arthroscopic reconstruction of chronic isolated PCL instability is a very difficult technique as well as its diagnosis. The reconstruction is very beneficial in the athletes and the patients who are not responding well to the conservative treatment.

KEYWORDS: Chronic isolated PCL rupture, arthroscopic reconstruction of PCL

POSTER BİLDİRİLER DEVAMI

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P83 POSTURAL STABILITY OUTCOMES AFTER ARTHROSCOPIC CELL-FREE OSTEOCHONDRAL SCAFFOLD SURGERY: A PİLOT STUDY

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OBJECTIVES: The purpose of this study was to evaluate the static and dynamic postural stability in patients undergone arthroscopic cell-free osteochondral scaffold surgery due to talus osteochondrol lesions.

METHODS: 8 patients diagnosed with osteochondral lesion of the talus undergone arthroscopic cell-free osteochondral scaffold surgery were included in this study (mean age; 43.2 ± 15.6 years). Only one patient was operated from non-dominant side. Static postural stability (SPS) was evaluated with "Biodex, Biosway Portable Balance System" as bilateral eyes open and closed 1 year after surgery. Dynamic postural stability (DPS) was assessed with the Y Balance Test (anterior, posteromedial, posterolateral directions). Score of static and dynamic postural stability between the operated side and the other side were compared with the Wilcoxon test.

RESULTS: At the assesment of static postural stability, there was no statistical difference between the operated side and the other side in the anteroposterior, mediolateral and total scores ($p > 0.05$). Similarly, all three directions of Y balance test values did not differ statistically between the two sides ($p > 0.05$).

CONCLUSION: It was determined that postural stability of patients who were applied arthroscopic cell-free osteochondral scaffold surgery in the operated side have reached the same level those of other side after 1 year surgery. This situation should be taken into consideration when planning the early stages of rehabilitation programs.

KEYWORDS: Ankle, ankle surgery, arthroscopy, postural stability

POSTER BİLDİRİLER DEVAMI

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P84 OMUZ ÇIKIĞINDA MODİFİYE KOCHER TEKNİĞİYLE KAPALI REDÜKSİYON SONUÇLARIMIZ

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OBJECTIVES: Omuz çıkığıında Kocher manevrası komplikasyonları nedeni ile çok tercih edilen bir kapalı redüksiyon tekniği değildir. Bu çalışmada, Kocher manevrası modifiye edilerek komplikasyon gelişmeden redüksiyon sağlanan hastaların retrospektif olarak değerlendirilmesi amaçlandı.

METHODS: Omuz çıkığıı nedeni ile acil servise gelen hastalar değerlendirildi. Fizik muayene ve direkt radyografi sonrası hastalar Acil servis müdahale odasına alındı. Ajitasyonu olan hastalara 5 mg diazepam intramuskuler uygulandı. Hastalar muayene masasına supine pozisyonunda yatırıldı. Hastalar yapılacak müdahale konusunda bilgilendirildi. Kapalı redüksiyonu gerçekleştirecek hekim tarafından hastanın disloke kolu 90 derece abdüksiyona getirildi, dirsek 90 derece fleksiyonda iken 90 derece dış rotasyon uygulandı. Kol kontrollü olarak yavaşça dirsek ve ön koldan tutularak addüksiyona getirildi. Kol gövdeye yaklaştığında omuz iç rotasyona alındı. Bu sırada omuzun redükte olduğu gözlemlendi. Redüksiyon sonrası 3 hafta kol gövde bandajı uygulandı.

RESULTS: 2010-2014 yılları arasında acil servise omuz çıkığıı nedeni ile başvuran 50 hasta değerlendirildi. Yaş aralığı 17 ile 85 idi. Tüm olgularda anterior dislokasyon mevcuttu. 5 hastada tuberkülüm majus kırığı mevcuttu. Hastaların %80'i primer dislokasyondur. %20'si habitüel dislokasyondur. Hiçbir hastada nörovasküler patoloji mevcut değildi. Hastaların %80'inde ilk manevra da kapalı redüksiyon sağlandı. %16'sında ikinci manevrada redüksiyon sağlandı, olguların %4'ünde manevra başarısız oldu ve genel anestezi altında kapalı redüksiyon uygulandı. Olguların hiçbirinde komplikasyon gözlenmedi. Genel anestezi alan hastalar dışında hiçbir hasta hospitalize edilmedi. Subjektif değerlendirme ile hastalarda ağrı duyulmadan redüksiyon işlemi gerçekleştirildi.

CONCLUSION: Omuz çıkığıında kapalı redüksiyon yöntemlerinden biri olan Kocher manevrası komplikasyonları nedeni ile çok tercih edilen bir yöntem değildir. Bu yöntemi modifiye ederek uyguladığımız bu teknikle hastalarda herhangi bir komplikasyon gelişmediği gözlemlendi. Hastaların %96'sında genel anesteziye ve yardımcıya gerek duyulmaksızın uygulanan tekniğin başarılı olduğu gözlemlendi. Subjektif değerlendirme ile hastaların daha az ağrı duyduğu gözlemlendi. Bundan dolayı, hasta uyumunun daha iyi olduğu ve hastaların redüksiyon sırasında işlemi engelleyecek herhangi bir direnç göstermediği belirlendi.

KEYWORDS: Dislokasyon, Kocher manevrası, omuz

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P86 THE USE OF AN ACCESORY MEDİAL PORTAL İN ANATOMİC ACL RECONSTRUCTION. A PROSPECTİVE CT- STUDY.

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OBJECTIVES: The purpose of this study was to evaluate if any differences exist regarding the position and the length of the femoral tunnel between the anterior cruciate ligament (ACL) reconstruction (ACLR) with the use of an accessory medial portal and the ACLR with no use of accessory medial portal using computed tomography (CT) imaging.

METHODS: Twenty-five consecutive patients that underwent ACLR with the aid of an accessory medial portal (Group A) and 25 ACL-reconstructed (ACL-R) patients with no use of the accessory medial portal (Group B) formed the two study groups. The femoral tunnel angle (FTA) was measured on CT and the femoral tunnel length (FTL) was measured intraoperatively. Unpaired t-tests were used to examine differences regarding FTA and FTL between the two groups. The level of significance was set at $\alpha=0.05$.

RESULTS: Mean group values (range, standard deviation) for FTA were 33.9° (30° - 41°, 2.9°) and 48.2° (43° - 59°, 4.4 °) and for FTL 36.2mm (30-39, 2.4) and 44.2mm (39-48, 3) for groups A and B respectively ($p<0.005$).

CONCLUSION: With the use of an accessory medial portal the femoral tunnel is placed in a more oblique position in coronal plane as compared to the conventional AM portal technique, closer to the real anatomical position of the posterolateral bundle. Additionally the femoral tunnel length with this new technique is shorter than this with the AM portal but long enough for using the smaller button which has been proposed to reduce the motion of the graft within the tunnel

KEYWORDS: Accesory Portal, Anatomy of ACL, Hamstrings, 3-D CT

P87 DO WE NEED ANKLE ARTHOSCOPY AFTER MALLEOLAR FRACTURES AT THE TIME OF IMPLANT REMOVAL?

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OBJECTIVES: The purpose of this study was to evaluate the status of ankle joint arthroscopically, in patients with an appropriately treated ankle fracture.

METHODS: Arthroscopic examination was performed at the time of implant removal after an average of 12.8 months (range 8 to 16 months) in a series of 40 consecutive patients. There were 24 women and 16 men with an average age of 55.4 years (range 17 to 67 years old). The Danis-Weber classification system was used for these fractures. All the patients were evaluated by the AOFAS Clinical Rating System before and after implant removal.

RESULTS: In all the patients the fractures were healed without need of a second operation. Synovitis was present in all the patients and was located antero-laterally in 29 patients. Articular cartilage damage was noted in 19 patients, among whom 16 were treated by shaving and 3 were treated with the microfracture technique. In 13 patients we removed loose bodies. The lesions tended to be worse in patients over 60 years of age. The frequency and severity of the lesions also increased in type-B and type-C fractures.

CONCLUSION: There is clear evidence that despite anatomic and appropriate reduction postoperative results of ankle fractures are not free of complications. Synovitis is a common finding after ankle fractures, and chondral lesions are commonly found associated especially with the more severe ankle fracture pattern. Our findings show that arthroscopy at the time of implant removal is useful in identifying and in treating intra-articular ankle lesions.

KEYWORDS: Ankle Arthoscopy, Malleolar Fracture, Osteochondral lesion of talus

P89 THE OSTEOSYNTHESIS OF UNSTABLE FRACTURES OF THE DISTAL CLAVICLE WITH HOOK PLATE: IS IT A SOLUTION OR TROUBLE?

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OBJECTIVES: The conservative treatment of unstable fractures of the distal clavicle associated with higher nonunion rates. Although many treatment modalities have been described for these unstable fractures, there isn't a golden standard one. Although osteosynthesis of the fractures with hook plate known a treatment option its special problems regarded the design of the implant. Aim of the study: To show f effectiveness of the hook plate osteosynthesis in treatment of unstable fractures of the distal clavicle with early removal of the implant to prevent possible complications.

METHODS: Between July 2011 and September 2013, seven patients with unstable fractures of the distal clavicle were treated with open reduction and internal fixation with hook plate. The mean age of the patients was 36 (range: 21-58) and there were two female and 5 male. Routine plate removal was planned at six months after the index surgery and the patients were informed for this second surgery. All fractures were unilateral and 5 in dominant extremity. Routine follow up were done after two, six and 18 weeks after the index surgery. The healing of the fracture was evaluated with radiological and clinical examinations. The Constant scoring system was used for functional evaluation of the patients.

RESULTS: All fractures healed without any mechanical problems related to the plate. The average follow-up of the patients were 22 months (range: 8 - 35). After the complete healing all plates were removed. The mean Constant score was 93 (rang 82 to 98 points) at the final follow up of the patients.

CONCLUSION: The osteosynthesis of the unstable fractures of the distal clavicle with hook plate is seems to be an alternative and effective option for surgical treatment. To prevent implant related mechanical problems, we advise to remove the plate after the healing of the fracture as a routine manner.

KEYWORDS: Distal clavicle, hook plate, remove the hook plate

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P90 LİTERATÜRDE NADİR BİR ÖRNEK OLARAK JONES KIRIĞINA EŞLİK EDEN TALUS KIRIĞI

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AMAÇ: 5. metatars kırıkları, izole yumuşak doku travmalarından sonra ayağın en sık görülen yaralanmasıdır. Ayak kırıkları içerisinde, 100 binde 67 oranı ile en sık görülen kırık olan metatars kırıklarının % 70'ini 5. metatars kırığı oluşturur. Literatürde ilk kez Sir Robert Jones tarafından tanımlanan 5. metatars proksimal uç kırığının güncel sınıflamasında sıklıkla kullanılan Lawrence ve Botte sınıflamasıdır. Tip 2 olarak adlandırılabilen ve seviye olarak 4-5. intermetatarsal eklem hizasına uyumlu olan 5. metatars proksimal kırığı Jones kırığı olarak da isimlendirilmekte olup; sıklıkla plantar fleksiyondaki ayağın inversiyon yaralanması sonrası indirekt travması ile oluşmaktadır. Bu kırık tipi genel olarak komplikasyonsuz kabul edilip, eşlik edebilecek ek tarsal kırık veya diğer yaralanmalar yok sayılmaktadır. 4-8 hafta arası immobilizasyon sağlayan konzervatif tedavi yöntemleri ve kontrol aşamalarında konvansiyonel grafi kontrolü literatürde yeterli kabul edilip ilk başvuru sırasında ya da kontrollerde manyetik rezonans incelemesi ya da bilgisayarlı tomografiye gerek duyulmamaktadır.

YÖNTEM: Vaka sunumumuzda 30 yaşında, ortopedi uzmanı olarak görev yapan hastamızda yürüme sırasında basit travma olarak kabul edilebilecek inversiyon yaralanması sonrasında; konvansiyonel graflerinde Jones kırığı izlenmiş olup 4 hafta süre ile açı ayarlı ayak bileği stabilizasyon ortezi yardımı ile immobilizasyon sağlanmıştır. Hastaya kısmi yük verdirme aşamasında şiddetli ağrı nedeniyle yapılan manyetik rezonans görüntülemesinde; iyileşmekte olan 5. metatars kırığına ilaveten talus boynunda impakte subkondral kırık hattı ve talus başında şiddetli kemik iliği ödemi izlenmiştir.

BULGULAR: Immobilizasyonla takip edilen hastada kemik iliği ödemi kırık sonrası 4. ayda gerilemiş ancak refleks sempatik distrofi komplikasyonu oluşmuştur. Uygun tedavi verilen hastanın 1 yıl sonunda aktif yakınması kalmamıştır.

SONUÇ: Basit ve sorunsuz bir kırık olarak kabul edilebilecek Jones kırığına genç ve ek problemi olmayan bir hastada bile ek patolojilerin eşlik edebileceğinin unutulmaması ve gerek duyulması halinde konvansiyonel grafler dışında da ek tetkikler istenmesi açısından; literatürde sık rastlanılmayan bir olgu olarak vaka sunumumuz yararlı olacaktır.

ANAHTAR KELİMELER: Jones kırığı, Kemik iliği Ödemi, Manyetik Rezonans Görüntüleme, Metatars kırığı, Refleks Sempatik Distrofi, Talus kırığı

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P91 NADİR GÖRÜLEN DİZ İÇİ YABANCI CİSİM; TENDO POPLİTEUSTA SAÇMA

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AMAÇ: Diz eklemi içinde yabancı cisim görülmesi oldukça nadir bir durumdur. Diz eklemindeki yabancı cisimler ani ağrı veya dizde kilitlenmeye neden olabilir. Ayrıca eklem içi kurşunun ilerleyen zamanlarda intoksikasyona neden olma ihtimali vardır. Tendo popliteusta tüfek saçması olan olgumuzu sunduk.

YÖNTEM: Ateşli silah yaralanması sonrası acil servisimize başvuran 36 yaşındaki kadın hastanın yapılan radyografik incelemelerinde her iki alt ekstremitesinde çok sayıda tüfek saçması mevcuttu. Hastanın diz tomografisinde eklem lateralinde hiperdens yabancı cisme ait görüntü izlendi. Yabancı cisimin eklem aralığında olma ihtimali düşünülerek hastaya artroskopi planlandı.

BULGULAR: Standart artroskopik muayene sırasında tendo popliteusta siyah refle veren görüntü dikkati çekti. Probla tendon lifleri arasına girilerek saçma tanesi ortaya konuldu ve ekleminden çıkarıldı.

SONUÇ: Literatürde tendo popliteusta yabancı cisim olan bir olguya rastlamadık. Hastamızda yabancı cisim eklem sıvısıyla direk ilişkili idi ve kurşun intoksikasyonuna neden olma ihtimali düşünülerek saçma tanesi çıkarıldı. Hastanın takiplerinde herhangi bir komplikasyonla karşılaşılmadı.

ANAHTAR KELİMELER: Tendo popliteus, yabancı cisim

POSTER BİLDİRİLER DEVAMI

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P94 PARSİYEL ÖN ÇAPRAZ BAĞ YARALANMALARINDA İZOLE TEK BAND REKONSTRÜKSİYONU

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AMAÇ: Ön çapraz bağın çift bantlı yapısı ve bu bantların fonksiyonlarının detaylı çalışılması ile kısmi ÖÇB kopmaları daha iyi değerlendirilebilmiştir. ÖÇB cerrahisindeki teknik ve tecrübenin gelişmesi ile de uygun vakalarda selektif izole AM veya PL band rekonstrüksiyonu cerrahisi gündeme gelmiştir.

YÖNTEM: Kliniğimizde izole tek band rekonstrüksiyonu yapılan yedi hasta sonuçları ve bu yaklaşıma ait prensipler tartışıldı. İzole tek band rekonstrüksiyonuna artroskopik muayene ile karar verildi. Detaylı artroskopik muayene sonrası sağlam kalan band korunarak dikkatli debridman yapıldı. Tek hemstring-çift kat greft hazırlanarak, anatomik noktalara tüneller açıldı. Greft yerleştirilerek askı ve kanca ile tesbitleri yapıldı. Pozisyon, gerginlik, hareket ve sıkışma kontrol edildi. Cerrahi sonrası standart program uygulandı. Lachman, Pivot-shift testi, KT-1000 muayeneleri ve Lysholm, Tegner skorlamaları ile değerlendirme yapıldı.

BULGULAR: Artroskopik değerlendirmede kısmi yırtık olup debridman sonrası kalan bandın yeterli olduğu 8 hastaya izole tek band tekniğine karar verildi. Bir hastada tünel açılmasında oluşan ek yaralanma nedeniyle standart rekonstrüksiyona geçildi. Çalışmamıza 7 hasta dahil edildi. Hastalarımızın beşinde anteromedial band, ikisinde posterolateral band yırtığı vardı. Lysholm skoru ortalamamız preop 67 iken postop 89 bulundu. Tegner skoru ortalaması 5 iken 8 oldu. Lachman, Pivot shift, Ön çekmece testleri tüm hastalarımızda operasyon sonrasında negatif olarak değerlendirildi. KT-1000 ortalamaları preop 7 mm, postop 3,2 mm olarak izlendi.

SONUÇ: Kısmi ÖÇB yaralanmalarında kalan bandın kullanılmasının teorik avantajları tartışılmaktadır. Sağlam kalmış olan bağın mekanoreseptörleri sayesinde yapılan tek band rekonstrüksiyonu ile daha normal bir eklem propriyosepsiyonu beklenebilir. Sağlam bandın yumuşak dokusu ve sağlam damarsal yapısı greftin vaskülarizasyonunda ve yeniden yapılanmasında (remodelling) yardımcı olabilir. Teknik olarak daha zor olmakla birlikte, uygun hastalarda, yeterli tecrübenin bulunması halinde selektif izole tek band rekonstrüksiyonu hastaya avantaj sağlayabilir.

ANAHTAR KELİMELER: Parsiyel ön çapraz bağ yaralanması, izole tek band rekonstrüksiyonu

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P96 COMPARING EFFECTIVENESS BETWEEN A POWER-DRILL-MOUNTED DEVICE AND CONVENTIONAL FREE-HANDED TECHNIQUE FOR DISTAL LOCKING OF INTRAMEDULLARY IMPLANTS.

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OBJECTIVES: The procedure for distal locking of intramedullary nails (IM nail) is one of the time-consuming procedures and also exposes the surgical team and patient to high levels of radiation. Many techniques and devices have been created to solve the problems. Nonetheless, conventional free-hand technique is still the most popular due to easy-to-use and no added device needed. This research aims to study the accuracy of a drill-mounted device with free-handed technique in the distal locking of IM nail procedure.

METHODS: This is an experimental study. The device was made from PVC pipes. In this study, IM-nail-inserted synthetic femoral bones (Synbone®) were set as in IM nail procedure. Four orthopedic surgeons were instructed and performed the distal locking procedure with free-handed technique and then with the device (totally 20 times for each technique). The radiation exposure time and operating time were recorded.

RESULTS: The drill-mounted device reduced the radiation exposure time statistically significant lower than the free-handed technique. However, there was no different in operative time between the two techniques. Screw misdirection occurred two times in free-handed technique but not found in our device-assisted group.

CONCLUSION: In this experiment, the new-designed device can reduce the radiation exposure time in distal IM nail interlocking procedure. Nonetheless, further clinical study is required to confirm our results.

KEYWORDS: Distal interlocking, targeting device, radiation exposure

P97 REVERSE SEGOND FRACTURE VARIANT WITHOUT POSTERİOR CRUCİATE LİGAMENT INJURY: REPORT OF AN EXTREMELY RARE CASE

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OBJECTIVES: Reverse Segond fracture, which was described as the association of an avulsion of deep capsular portion of medial collateral ligament and tears of both posterior cruciate ligament (PCL) and medial meniscus, is an extremely rare injury, unlike Segond fracture. The aim is to report successful surgical treatment of a case with "Reverse Segond Fracture" with intact PCL.

METHODS: The patient was a 16 years old male, who admitted to emergency department of our Level I trauma center after a pedestrian traffic accident. The main complaint was pain on left knee and shoulder. Physical examination revealed mainly limitation in range of motion (ROM) of relevant joints. Radiology revealed Reverse Segond fracture in the left knee and associated left clavicle mid-shaft fracture. Imaging with MRI and CT revealed neither PCL injury or additional ligamentous pathologies of knee. MRI only revealed medial meniscus tear.

RESULTS: In surgery, avulsed bony portion of Reverse Segond fracture was fixed to tibia with a suture anchor and a cannulated screw securely under medial meniscus. Peripheral longitudinal medial meniscus tear was fixed with a 2-0 absorbable suture. Clavicle was internally fixed meanwhile. Knee range of motion (ROM) was started early on postoperative first day, then augmented progressively. The patient was mobilized partially-weight bearing after 1.5 months and returned to his active daily life after 2.5 months. He was without any residual complaints after a final follow-up period of 26 months.

CONCLUSION: This case report would be evaluated as a Reverse Segond Fracture variant, as no injury to PCL was noted, in contrast to its original definition in the relevant literature, which is also scarce. To the best of knowledge, this is the first report of successful surgical treatment of a case with Reverse Segond Fracture variant without PCL tear in the relevant literature.

KEYWORDS: Reverse Segond Fracture, posterior cruciate ligament, medial meniscus, internal fixation

P98 SNAPPING OF EXTENSOR DIGITORUM LONGUS TENDON

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AMAÇ: Ayak bileğinde atlama nadir görülen bir durum olmakla birlikte özellikle atletlerde sıklıkla peroneal tendonlar için tanımlanmıştır. Bu durum genellikle superior ekstansör retinakulum yırtılmasına veya tendon kılıfının hasarlanmasına bağlıdır. Inferior ekstansör retinakulum ekstansör tendonlar için pulley görevi görmektedir. Bu yapının hasarlanmasına genellikle peroneal tendonların atlama sendromuna yol açarken , ekstansör digitorum longus kasının atlama fenomeni sadece bir vaka bildiriminde bildirilmiştir. Bizim bu yazıdaki amacımız hasarlanmış ekstansör retinaculumu bağlı atlama fenomenini ve tenosinoviti göstermektir.

YÖNTEM: 33 yaşında erkek hasta hastanemize ayak bileği anterolateralinde 10 yıldır olan ağrı ve atlama şikayeti ile başvurdu. Hikayesinde 10 yıl önce futbol maçı sırasında ayak bileği tam inversiyondayken medialden laterale doğru tekme yediğini belirten hastaya hastaneye başvurduğunda kemik yapılarında problem olmadığı belirtilmiş 1 ay süreyle kısa bacak alçı uygulanmış. Alçı çıktıktan sonra ayak bileğinde ağrı ve atlama şikayeti başlamış. İstirahatle geçen hareketle ağrısı artan hastanın fizik muayenesinde aktif ayak bileği inversiyonuyla birlikte ekstansör digitorum longus kası üzerinde krepitasyon ve atlama hissi mevcuttu. Direkt röntgenogramlarında ve manyetik rezonans görüntülemesinde belirgin bir anormallik yoktu. Cerrahi için ayak bileğinin anterolateralinde 5 cm'lik longitudinal insizyon yapıldı. Insizyon talusun anterolateral fasetinde sonlandırıldı. Superfiyel peroneal sinir bulunarak diseke edildi ve korundu. Peroneus tertius kası ile birlikte ekstansör digitorum longus kaslarının inferior ekstansör retinakulum altından geçtiği görüldü. Retinaculum lifleri talusa yapışma yerinden diseke edilerek kaldırıldı. Peroneus tertius kası gevşetildi. Ekstansör digitorum longus kasının retinakulum liflerinin altında belirgin şekilde kompresyona uğradığı görüldü. Retinakulum lifleri ekstansör digitorum longus kasının altından geçirilerek sutur ankor ile talus cisminde tutturuldu. postoperatif dönemde erken pasif ayak bileği hareketi başlamak için rom walker uygulandı.

BULGULAR: Hastanın 6. Hafta kontrolünde ayak bileği hareketi tamdı. Inversiyon ve eversiyon ile ağrı ve atlama hissi yoktu. Hastaya tam yük vererek mobilizasyon başlandı.

SONUÇ: Kronik anterolateral ayak bilek ağrısı tanı ve tedavi açısından ortopedistlerin karşılaştığı zor konulardan birisidir. Ayak bilek ağrısının en sık sebebi travmadır. Sıkışma sendromları, osteokondral lezyonlar, sinovit travmaya seconder nedenler olabilirken, peroneal tendon instabilitesi, peroneus tertius kası, villonodüler sinovit diğer nedenler olabilmektedir. Ayak bileğinde atlama genellikle superior ekstansör retinaculum lezyonlarında görülmektedir. Ekstansör digitorum longus kasının atlama sendromu; Jaeoho ve ark. tarafından bir vaka bildirimini ile bildirilmiştir. Vakamızda atlamının hasarlanmış inferior ekstansör retinakulumun ekstansör digitorum longus kasının üzerindeki kompresyonuna bağlı olduğunu gördük. Tetik parmakta görülen; tendonda kronik kompresyon bulguları mevcuttu.

ANAHTAR KELİMELER: Atlayan ayak bileği1, ekstansör digitorum longus2, ekstansör retinakulum3

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P99 DİZ ÇIKIĞI SONRASI GELİŞEN ÇOKLU BAĞ HASARINA EŞLİK EDEN MEDİAL PATELLOFEMORAL LİGAMAN HASARI VE TEK SEANSTA REKONSTRÜKSİYONU

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AMAÇ: Diz çıkıkları sonrası çoklu bağ yaralanmaları sık olarak görülmektedir. En sık görülen kombinasyon ÖÇB ve İYB yaralanmasının birlikte olduğu yaralanmalardır Biz bu yazıda rotasyonel diz çıkığı sonrası sağ dizde ön çapraz bağ(ÖÇB) ve iç yan bağ yaralanmalarına ek olarak medial patellofemoral ligament (MPFL) ve lateral menisküs yaralanması nedeniyle cerrahi tedavi yapılan bir olguyu sunmayı amaçladık

YÖNTEM: Olgu Sunumu

BULGULAR: Kırk bir yaş erkek hasta ev içinde yaklaşık 1 metre yüksekten düşme sonrası sağ diz çıkığı şikayetiyle acil serviste değerlendirildi. Yapılan fizik muayanesinde cilt ve doku kaybı yoktu, cilt bütünlüğü korunmuştu. Distal nabızlar palpabl idi ve Doppler USG sonucunda dolaşım problemi yoktu. Ankle/brachial index 1.2 saptandı. Kompartman sendromu yoktu. Anestezi altında diz redükte edildi. Sonrasında 20 derece fleksiyonda uzun bacak atel tespitine alındı ve dolaşım açısından yakın takibe alınarak antikoagülan tedavi başlandı. Hastanın yapılan fizik muayanesinde ön çekmece testi ve valgus stres testi pozitif. Arka çekmece ve varus stres testi normaldi. Patellada instabilitesi mevcuttu. Çekilen düz grafilerinde kırık görülmedi. Çekilen MRG'de ÖÇB, İYB ve MPFL rüptürü olduğu görüldü. Hastanın takiplerinde ek bir sorun olmaması ile travmadan 17 gün sonra hastaya artroskopik anatomik tek demet ÖÇB rekonstrüksiyonu yapıldı; artroskopik muayane sırasında lateral menisküs posteriorunda rüptür tespit edildi ve menisküs tamiri yapıldı. Ardından dizin medial yapılarındaki hasara yönelik anatomik yüzeysel iç yan bağ ve posterior oblik ligament rekonstrüksiyonu ve MPFL hasarına yönelik MPFL rekonstrüksiyonu yapıldı.

SONUÇ: Travmatik diz yaralanmalarında iç yan bağ (İYB) hasarı sık görülmektedir. Diz çıkığı ile birlikte görülen İYB yaralanmalarının tedavisi zor ve tartışmalıdır.Bu tür yaralanmalarda İYB'nin konservatif olarak mı yoksa cerrahi olarak mı tedavi edileceği konusunda literatürde kesin bilgiler bulunmamaktadır. Ancak son yıllarda; vakamızda olduğu gibi İYB'deki geniş yırtıklarda cerrahi tedavi öne çıkmaktadır. Cerrahi tedavi sonrası iyi sonuçlar bildiren yayınlar literatürde mevcuttur. Bu tür yaralanmalarda, MPFL gibi ek bağ yaralanmaları ve menisküs hasarı olabileceği daima akılda tutulmalıdır ve dikkatli bir fizik muayane görüntüleme yapılmalıdır.

ANAHTAR KELİMELEER: Diz çoklu bağ hasarı, Medial patellofemoral ligaman hasarı, İç yan bağ hasarı

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P100 USE OF PLATELET-RICH PLASMA (PRP) FOR THE TREATMENT OF CHRONIC PERSISTENT JUMPER'S KNEE

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OBJECTIVES: The aim of this study was to evaluate the efficiency of multiple PRP injections on the healing of chronic persistent patellar tendinopathy ,after previous classical treatment have failed.

METHODS: We treated 30 patients affected by chronic jumper's knee ,who had failed previous nonsurgical treatments,with multiple PRP injections and physiotherapy.we also compared the clinical outcome with a homogeneous group of 15 patients primarily treated with the physiotherapy approach. Tegner,VAS,and pain level were used for clinical evaluation before,at the end of the treatment and 3-6 month follow-up. Complications, functional recovery and patients satisfaction were also recorded. A statistically significant improvements in all scores was observed at the end of the PRP injections in patients with chronic persistent patellar tendinopathy and a further improvement was noted at 6 month ,after physiotherapy was added.

RESULTS: Moreover,comparable results were obtained with respect to the less severe cases in the VAS score and pain level evaluation,as in the time to recover and patients satisfaction,with an ever higher improvement in the sports activity level achieved in the PRP group

CONCLUSION: The clinical results are encouraging ,indicating that PRP injections have the potential to promote the achievement of a satisfactory clinical outcome,even in difficult cases with chronic persistent tendinopathy after previous classical treatments have failed.

KEYWORDS: Jumper's knee,patellar tendinopathy,PRP

P101 LONG-TERM RESULTS OF SURGICAL TREATMENT OF A PATIENT WITH CONGENITAL PATELLAR DISLOCATION

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OBJECTIVES: Congenital dislocation of patella (CDP) is a condition which is often associated with disorders of quadriceps mechanism. CPD may occur as flexion contracture of knee which are associated with syndromes, and also may occur in different forms as an isolated anomaly which are characterized by dislocation of patella by flexion or extension of knee or spontaneously reduction of patella. Here, we aimed to present the long-term results of a case of CPD which is occurred as an isolated anomaly.

METHODS: A seven years old male patient admitted with the complaints of limitation in the right knee joint and difficulty in walking. Physical and radiological examinations of the patient were performed, and patient hospitalized with CPD preliminary diagnosis. The right knee joint flexion and extension range of motions were significantly limited when compared with left knee joint. Range of motion of knee flexion was 100° and limitation of extension was 30°. Also the patient had difficulty in walking due to weakness of extensor mechanism. The patella located laterally to the lateral femoral condyl, and it was in fixed position by palpation. Reduction of patella wasn't achieved by passive flexion and extension of knee. The patella was sited laterally to the lateral femoral condyl in anteroposterior (AP) knee radiography. And in tangential radyography; it was seen that the patella dislocated to the lateral side. And also, there was insufficiency in the development of patellar femoral surface, and trochlear dysplasia was observed. According to these physical and radiological findings patient was operated with the diagnosis of CPD and modified Roux- Goldthwait surgical technique was performed. Postoperatively patient followed in long leg cast that is performed in 30° knee flexion and internal rotation. Any complications were not seen at the follow-up of patient.

RESULTS: Patient was followed nearly 6 years. At the last follow-up it was seen that range of motions of knee joint reached to normal degrees. And in AP radiography; it was seen that patella is in anatomic location. Also tangential radyography showed that patella is in accordance with patellar femoral surface. Interestingly, the trochlear dysplasia was improved and gained its normal anatomic structure.

CONCLUSION: CPD is a rare congenital anomaly of the knee. It may frequently accompany with syndromes, and also may appear isolated anomaly. The functional effects can cause various symptoms. Appropriate surgical treatment is effective in the improvement of functions and instability.

KEYWORDS: Congenital, dislocation, patella, quadriceps mechanism

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P102 POSTEROLATERAL KÖŞE YARALANMASI SONRASI GELİŞEN ÖN ÇARPAZ BAĞ RERÜPTÜRÜ VE REKONSTRÜKSİYONU

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AMAÇ: Posterolateral köşe (PLK) yaralanmaları ülkemizde temas sporlarının yaygınlaşması ve trafik kazalarındaki artış nedeni ile daha sık karşımıza çıkmaktadır. Bu bölgenin yaralanmalarında tanı ve tedavi güçlükleri mevcuttur. Bizde transtibial önçarpaz bağ rekonstrüksiyonu yapılan ve sonrasında PLK yaralanması sonrası ÖÇB'de rerüptür gelişen olguyu sunmayı planladık.

YÖNTEM: Olgu sunumu

BULGULAR: 24 yaşında bayan hasta ; 2 yıl önce araç içi trafik kazası sonrası gelişen sağ tibia plato kırığı , sağ humerus suprakondiler kırığı nedeni ile cerrahi tedavi uygulanmış. Takiplerinde çekilen MR sonucu sol diz ön çarpaz bağ rüptürü saptanmış ve artroskopik transtibial ÖÇB rekonstrüksiyonu yapılmış. Takiplerinde 1 yıl sonra gelişen ön çekmece testi pozitifliği nedeni ile rerüptürden şüphelenerek kliniğimize refere edilmiş. Hastanın yapılan muayenesinde Lachmann pozitif; varus stres testi pozitif, valgus stres testi -, ön çekmece +, arka çekmece -, eksternal rotasyon genu rekurvatum testi pozitifliği saptandı. Hastada ön çarpaz bağ yırtığı ile beraber posterolateral köşe yırtığı düşünülerek direkt röntgenogram (her iki diz ayakta basarak AP/lateral grafi, alt ekstremitte aks grafisi) ve diz MR istendi. Hastada direk grafi bulguları normaldi; aks grafisinde dizilim bozukluğu saptanmadı. T1 sagittal, T2 coronal, STIR coronal PD yağ baskılı aksiyel MR görüntüleri alındı. ÖÇB de rerüptür saptandı ancak bu kesitlerde PLK yırtığı saptanmadı. Bu nedenle ek MR sekansı (T2 yağ baskısız) alındı ve incelemede ÖÇB yırtığına ek olarak PLK hasarı saptandı ve cerrahi tedavi planlandı. Hastaya anatomik artroskopik tek tünel ön çarpaz bağ rekonstrüksiyonu ve LaPrade tekniği ile posterolateral köşe tamiri uygulandı.

SONUÇ: Posterolateral köşe oluşumları dizin varus ve dış rotasyonu için primer, posterior translasyonu için sekonder sınırlayıcıdır. Ayrıca yapılan invitro çalışmalarda posterolateral köşe hasarında ön çarpaz bağda artmış varus yüküne bağlı olarak önçarpaz bağ hasarı riskinin arttığı ayrıca çoklu bağ yaralanmalarında atlanmış PLK hasarının (ÖÇB) rekonstrsı olan ÖÇB rekonstrüksiyonu sonrası sonuçları olumsuz yönde etkilediği gösterilmiştir. Bu nedenle dizde çoklu bağ yaralanmaları düşünülen olgularda ayrıntılı bir fizik muayene ve radyolojik görüntülemenin cerrahi planlama için önemli olduğu ve cerrahinin başarı şansını artırdığını düşünmekteyiz.

ANAHTAR KELİMELEER: Çoklu bağ hasarı, ön çarpaz bağ hasarı, posterolateral köşe yaralanması,

P103 BAYAN HASTADA DİSTAL BİSEPS BRAKİ TENDONUNUN KISMİ YIRTIĞININ CERRAHİ TEDAVİSİ - OLGU SUNUMU

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AMAÇ: Literatürde bayan hastalarda distal biceps braki tendonunun kısmi yırtığı ile ilgili yayın sayısı sınırlıdır. Distal biceps braki tendonunun kısmi yırtığının endoskopik olarak teyit edilmesinden sonra, çift insizyon tekniği ile tekrar tutturulduğu bir olgu sunulmaktadır.

YÖNTEM: Kırk yaşındaki bayan hasta polikliniğimize dominant ekstremitesinde, sağ dirsekte ağrı şikayeti ile başvurdu. Altı ay önce bir traktör römorku dolusu kuru pancar sapını, her iki omuzu 90 derece abduksiyonda ve her iki dirseği 90 derece fleksiyonda iki kolu arasında taşıdıktan bir gün sonra ağrısı başlamıştı. Dirsek çevresinde ödem ve ekimoz olmamıştı. On beş gün kadar istirahat ile ağrısının geçmesini beklemiş, geçmemesi üzerine bir başka sağlık kurumuna başvurmuştu. Hastaya oral olarak diflusal, gabapentin ve feniramidol; topikal olarak da nimesulid jel başlanılmıştı. Bu ilaçlarla tedaviye başlandıktan onbir gün sonra oral naproksen de tedavisine eklenmişti. Gabapentini bir ay, diğer ilaçlarını iki ay süre ile kullanan hastanın ağrısında azalma olmamıştı. Polikliniğimize başvuran hastanın yapılan muayenesinde dirsek ön yüzünde ağrıdan yakındığı saptandı. Dirsek hareketlerinde kısıtlılık yoktu. Biceps braki tendonunun dirsek ön yüzünde palpe edilen bölümü boyunca hassasiyet saptandı. Tendonun seyri boyunca palpe edilen bir boşluk yoktu. Ön kol rotasyonu ile birlikte tendon üzerinde krepitasyon alınıyordu. Dirsek fleksör ve supinatörlerinin kas gücü 4+/5 olarak değerlendirildi. Hastanın direkt grafisinde herhangi bir patoloji saptanmadı. MR incelemesinde kısmi yırtık ile uyumlu sinyal artışı ve tendon komşuluğunda effüzyon saptandı. Hastanın yeterli süre konservatif tedavi aldığı düşünülerek distal biceps tendon endoskopisi yapıldı. Bursal dokuda yaygın proliferasyon ve damarlanma artışı ile tendonun % 50'sinden fazlasını tutan kısmi yırtık saptandı. Çift insizyon kullanılarak Morrey'in tarif ettiği teknikle tenotomi sonrası tuberositas radiiye tekrar tutturuldu. Ameliyat sonrası supinasyon dışında aktif dirsek hareketlerine izin verildi. Aktif supinasyona üçüncü haftada başlandı.

BULGULAR: Ameliyat sonrası dördüncü ayda yapılan kontrolde hastanın ağrı şikayeti yoktu. Eklem hareket açıklığı ve kas güçleri tamdı. Mayo Dirsek Performans Ölçeği 45'ten 95'e; Oxford Dirsek Ölçeği 25'ten 97,9'a yükselmişti.

SONUÇ: İngilizce literatürde bulabildiğimiz kadarı ile 7 bayan hastada distal biceps braki tendonunun kısmi yırtığı bildirilmiştir. Erkeklerde daha sık görülmesi bicepsin kesit alanının daha büyük olmasına bağlanılmıştır. Distal biceps braki tendonunun kısmi yırtıklarında semptomlar ile klinik bulguların tam kat yırtıklara oranla daha hafif olması ve tendonun palpe edilebilmesi tanı koymayı güçleştirmektedir. Dirsek önünde ağrı ile gelen hastalarda akla getirilmeli, MR ve gerektiğinde endoskopi ile tanı teyit edilmelidir. Bu iki yöntem yırtığın oranının belirlenmesi açısından da faydalıdır. Kısmi yırtıklarda ideal tedavinin ne olduğu konusunda görüş birliğine varılmamıştır. Yırtığın tendonun % 50'sinden azını etkilediği durumlarda geçici atelleme ve nonsteroid antiinflatuar ilaç kullanımı; daha yüksek orandaki tutulumlarda tenotomi sonrasında yeniden tutturmayı önerenler bulunduğu gibi tüm kısmi yırtıkların cerrahi olarak tedavi edilmesini önerenlerde mevcuttur.

ANAHTAR KELİMELER: Distal biceps braki tendonu, kısmi yırtık, endoskopi, cerrahi

P104 RECURRENT ANTERİOR GLENOHUMERAL INSTABILITY -ARTHROSCOPIC RESULTS OF BANKART REPAIR

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OBJECTIVES: In the treatment of traumatic anterior shoulder instability there is still not formed a ideal consensus. Although the results of the open technique for repairing Bankart lesions detected in these patients, in recent years with the development of arthroscopic methods, arthroscopic Bankart repair with the successful results are obtained. We aimed to present our results of Bankart repair with the arthroscopic method.

METHODS: The study included 42 patients who underwent arthroscopic Bankart repair in our clinic between the years 2011-2014. Mean age was 26.3(18-37). Preoperative and postoperative pain and functions of the patients were assessed using the Constant and Rowe scores. The mean follow-up period was 19 months (range 6 to 30 months). Patients with at least two dislocations were included in the study, The mean number of dislocations was 4.8(2-10). The mean time from the first trauma to surgical intervention was 2.5 years (range 0.5 to 10 years). Patients with multidirectional instability were excluded. Repair was performed using double-stranded double with the standard anterior portal. Decision for surgical treatment was made based on limitation of activities because of fear of having a dislocation and on positive results of instability tests. Before surgery for all patients, a detailed clinical examination, conventional radiography and conventional MRI were evaluated. All the patients had labral tears on preoperative magnetic resonance scans and had complaints of instability even during daily activities.

RESULTS: The mean passive shoulder abduction was 155 (145-170) degrees and mean external rotation was measured 80(60-90) degrees. The mean preoperative Rowe score was 42 points, while the postoperative score was 89.1 points at the last time follow up. The difference was statistically significant ($p < 0.05$). The Constant score was 52 preoperatively and increased to 85 points after the surgery. The difference was statistically significant ($p < 0.05$). The mean loss of external rotation was observed %28.75 and the last time follow up decreased to %8.2. The difference was statistically significant ($p < 0.05$). All of the patients returned to their daily activities and no dislocation has been occurred.

CONCLUSION: Although, in the past, the results of arthroscopic repair were less satisfactory compared to open and mini open surgery. This condition has changed remarkably. The results of arthroscopic repair in our study were good enough compared to open surgeries. Also in patients who underwent arthroscopic repair, length of hospital stay is shorter, less pain and less scar tissue occurs after the surgery. We believe that, with enhanced experience and advances in arthroscopic repair techniques, arthroscopic treatment may outweigh open surgery.

KEYWORDS: Shoulder, Instability, Repair

P105 TREATMENT OF TYPE 3 ARTHROFIBROSIS FOLLOWING ARTHROSCOPIC RECONSTRUCTION OF ACL AND POSTEROLATERAL CORNER INJURY WITH TIBIA PLATEAU FRACTURE IN A PROFESSIONAL DANCER: A CASE REPORT.

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OBJECTIVES: Arthrofibrosis is a serious complication following the reconstruction of anterior cruciate ligament (ACL) and posterolateral corner (PLC) injury. Loss of motion caused by arthrofibrosis can be disabling in young and active patients. We report the clinical results of the treatment of arthrofibrosis following arthroscopic reconstruction of ACL with ipsilateral hamstring tendon graft and surgically repairing PLC with 2 suture anchors in a 30 year-old professional dancer, treated with surgical lysis and manipulation under general anesthesia followed by aggressive physical therapy.

METHODS: A 30 year-old male professional dancer presented with pain, effusion and severe instability in his left knee after falling in a dance event. The pain was evaluated on Visual analog scale (VAS) as 6 to 8. At the physical examination, anterior drawer test was evaluated as grade 3, pivot shift test, varus test, dial test and posterolateral drawer test were found positive. The Tegner Lysholm score was evaluated as 22 (poor). Under general anesthesia, left knee had tendency to external rotation and recurvatum when leg was suspended by toes. A magnetic resonance image (MRI) revealed the presence of a total ACL rupture, PLC injury and a fracture of lateral tibia plateau. The patient was treated with arthroscopic reconstruction of ACL with ipsilateral hamstring tendon graft fixed with endobutton through femoral tunnel and bio interference screw through tibial tunnel and PLC injury was treated with 2 suture anchors. Postoperatively first day, quadriceps musculature and active and passive ROM exercises was trained. During postoperatively third week, the patient was allowed to mobilize nonweight bearing with the use of two crutches without functional knee brace. At the sixth week, arthroscopic lysis was performed due to type 3 arthrofibrosis. At the tenth week, manipulation was performed to the left knee under general anesthesia.

RESULTS: At the 3 month- follow-up, the patient achieved full symmetric restoration of motion and he had returned to full daily activities. The Tegner Lysholm score was evaluated as 94 (excellent) postoperatively. Functional examination of the left knee revealed 155 of flexion, and full knee extension. The complaint of instability was disappeared. At 9 month-follow-up, clinical findings were unremarkable, with no sign of re-rupture and arthrofibrosis and he returned to his professional dance career.

CONCLUSION: In the literature there is not any consensus regarding the management and rehabilitation intervention for arthrofibrosis in young athletes or professional dancers. The best treatment method is preventing the arthrofibrosis once it has occurred with surgical lysis and aggressive physical therapy. The combined surgical treatment and physiotherapy described in this case report may assist clinicians in the treatment of arthrofibrosis after arthroscopic reconstruction of ACL and PLC injury.

KEYWORDS: Arthrofibrosis, arthroscopic reconstruction of ACL, PLC injury

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P106 AÇIK SU (OPEN WATER) MİLLİ TAKIM ADAY KADROSUNDA YER ALAN YÜZÜCÜLERE KIŞ DÖNEMİ HAZIRLIK KAMPINDA UYGULANAN ANTRENMANLARIN KAN PARAMETRELERİ ÜZERİNE ETKİLERİNİN İNCELENMESİ

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AMAÇ: Açık deniz yüzme (open water) denizlerde, nehirlerde ve göllerde 5-10-25 km olarak yüzülen olimpiik spor disiplini. Dayanıklılık sporlarının gerektirdiği zihinsel ve fiziksel yüklenmelere hazır olabilmek ve uygulayabilmek (yüklenme-dinlenme ilişkileri), antrenman biliminin temel prensipleri açısından önem taşımaktadır. Açık su antrenmanlarının planlanması ve uygulanması yüzme antrenmanlarının yazım ve uygulamalarına benzerlik göstermekle birlikte yüksek performansın elde edilebilmesi için farklı türden egzersizlerin antrenmanlara katılmalarını zorunlu kılmaktadır (kürek çekmek-kayak yapmak gibi). Deniz ve havuz antrenmanları ile birlikte planlanan ve uygulanan diğer spor branşlarının ilave antrenmanları, her spor branşında olduğu gibi yüzücülerin antrenörleri tarafından, birim antrenmandan mikro-mezo ve macro seviyelere kadar yakın takip gerektirmektedir. Open water sporu ve sporcuları üzerine yapılan ve yayımlanan çalışmaların sınırlı olması ve uygulanan antrenmanlarının yüzücülerde oluşturabileceği fizyolojik ve psikolojik sorunların bilinmesinin önemi düşünüldüğünde, bu alanda yapılacak her türlü bilimsel çalışmanın antrenörlere ve sporculara bilgiler aktarması önem taşımaktadır. Literatür incelendiğinde open water antrenmanların yüzücülerin akut ve kronik kan parametreleri üzerine olan etkilerinin incelendiği çalışmalara rastlanmamıştır. Bu çalışmanın amacı, Türkiye Yüzme Federasyonunu faaliyet programında yer alan ve geçtiğimiz kış Alanya'da gerçekleştirilen Açık Su Aday Millî takım yüzücülerine, denizde-havuzda yaptırılan antrenmanların, kamp başlangıcı ve sonunda alınan kan örnekleri ile bazı biyokimyasal parametreleri üzerine olan etkilerini incelemektir.

YÖNTEM: Çalışmaya en az beş yıldır düzenli open water antrenmanı yapan, yaş ortalamaları 17.8 ± 2.31 olan 13 erkek ve yaş ortalamaları 16.5 ± 1.29 olan 7 bayan sporcu gönüllü olarak katılmıştır. Sporcuların toplam yüzme mesafeleri sırasıyla 1. hafta 32 km deniz, 53 km havuz, 2. hafta 38 km deniz, 52 km havuz olarak kaydedilmiştir. Sporcuların kamp başında ve sonunda venöz kanları alınarak; plazma ürik asit (ÜA), aspartat aminotransferaz (AST), laktat dehidrogenaz (LDH), kreatin kinaz (CK), total testesteron (TT), kortizol (K), serbest demir ve testesteron/kortizol (T/K) oranı değerlendirilmiştir.

BULGULAR: Bayan sporcularda kamp sonrası plazma AST ($p=0.004$), LDH ($p=0.01$), CK ($p=0.006$) değerlerinin kamp başı değerlerine göre anlamlı olarak yükseldiği sonucuna ulaşılmış, buna karşın, ÜA, TT, K, T/K ve serbest demir değerlerinde kamp başı ve sonrasında istatistiksel olarak anlamlı farklılığa rastlanılmamıştır. Benzer olarak, erkek sporcularda, kamp sonrası plazma AST ($p=0.000$), LDH ($p=0.001$), CK ($p=0.005$) değerleri kamp başı değerlerine göre anlamlı olarak yüksek bulunmuştur. Ölçülen diğer parametrelerde (ÜA, TT, K, T/K ve serbest demir) kamp başı ve sonrasında istatistiksel olarak anlamlı farklılık kaydedilmemiştir.

SONUÇ: Open water millî takım aday sporcularında iki haftalık antrenmanlar sonrasında antrenman yüklerine bağlı olarak inflamasyon yanıtının arttığını ve bu artışın metabolik strese işaret ettiği söylenebilir.

ANAHTAR KELİMELEER: Kortizol, Kreatin Kinaz, Open Water, Testesteron

P107 UNUSUAL İATROGENİC COMPLICATİON OF ACL SURGERY; ON THE CARTİLAGE PLACEMENT OF FİXTATİON MATERIAL

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OBJECTIVES: Anterior cruciate ligament (ACL) ruptures constitute the most common ligament injury of the knee, and ACL reconstruction is a commonly performed procedure in orthopedic sport medicine. We report a case of on-the-cartilage placement of EndoButton for ACL reconstruction and its treatment with arthroscopic removal. The rehabilitation method was successful, resulting in excellent function and range of motion of the knee. The aim of this study was present an unusual case of iatrogenic complication of ACL reconstruction and to highlight to the surgeons about this complication.

METHODS: A 22-year-old male patient administered to our outpatient clinic with a history of trauma to his left knee in a soccer game 2 years ago. He underwent arthroscopic transtibial ACL reconstruction using hamstring tendons and EB system in another facility 19 months ago. At the time of initial administration he complained about pain and friction on his left knee, especially when he was running. In his physical examination patellar friction, anterior drawer and lachman tests were pathological which reminded us rerupture of ACL. Knee movements were in normal limits, but he felt pain especially during flexion and extension.

RESULTS: We used standard anteromedial and anterolateral portals and an accessory portal for excision of EB. When we explored the knee arthroscopically, we observed the EB misplaced on femoral groove. Firstly the loop of EB was cut then the EB was removed from superolateral portal. Loop remnant was cauterized with RF probe. The knee was irrigated and portals were sutured. The operation was finished without complication. The knee was dressed and the patient was kept in an adjustable knee brace. There was no complaint of crepitation and the range of motion (ROM) of knee was in normal limits. We offered revision operation again but the patient didn't accept this suggestion.

CONCLUSION: EB is a good and a commonly used option in ACL reconstruction surgery. Even the complication rates seem much more acceptable when compared to other fixation methods; misplacement of fixation device can be seen. In such a situation it is believed that, surgeons must not hesitate for arthroscopic removal and revision surgery.

KEYWORDS: Anterior cruciate ligament, reconstruction, complication, endobutton, cartilage damage

P109 COMPARASION OF CLİNICAL AND RADİOLOGICAL PARAMATERS WITH TWO DİFFERENT SURGICAL METHODS FOR ANTERİOR CRUCİATE LİGAMENT RECONSTRUCTION

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OBJECTIVES: We investigated the effects anatomic or nonanatomic femoral tunnel positions and tunnel fixation methods obtained using two different surgery methods on tunnel widening and clinical results in anterior cruciate ligament (ACL) reconstructions.

METHODS: Patients with isolated anterior cruciate ligament ruptur are included to study who dont have intra-and extra-articular additional pathology of the knee, without previously a history of operations of both knees. 2 groups were created. Group 1 Aperfix implant were used which can be able to perform non anatomical femoral tunnel and intra tunnel fixation with transtibial technique. In Group 2 Endobutten CL implant were used which can make fixation from outside the cortex with anatomic femoral tunnel in use of anteromedial portal techniques. 27 patients (average age 29,33, range 18 to 55 years) in group 1 and 27 patients (average age 27,51, range 16 to 45 years) in group 2 totally 54 patients were performed surgery. All patients were assessed using the IKDC (International knee documentation commity), Tegner Activity Scala and Lysholm II Functional Scores. Muscle strength measurements in both groups compared to intact knee was measured with an isokinetic dynamometer Biodex System 3 Pro. The location of the femoral tunnel aperture and tunnel widening were imaged with 3D reconstructive computed tomography. All measurements were performed using the same software application by the same radiologist.

RESULTS: The two groups were similar with respect to age and sex distribution, operated side, the size of the tunnel created, and follow-up period ($p>0.05$). After surgery in both groups, the clinical scores showed significant improvement compared to preoperative ($p=0,0001$). However, postoperative clinical outcomes in the two groups did not show a difference significantly ($p>0,005$). Isokinetic muscle strength study showed significant differences between the two groups ($p=0,0001$). Location of femoral tunnel aperture on the medial wall of the lateral femoral condyle showed a significant differences in the two groups ($p=0,0001$). The expansion of proximal and distal femoral tunnel in two groups showed significant differences ($p=0,0001$). There was relationship between distal femoral tunnel widening and location of femoral tunnel aperture.

CONCLUSION: Although there is no statistically significant difference between the two groups clinically, difference noticed in terms of isokinetic muscle strength may be due to differences in the degree of shift as a result of multiple loading depending on the biomechanical properties of materials. We thought that the difference seen in the widening of tunnel in the proximal or distal may be due to, the technique of graft fixation, the distance between the fixation point and the joint, and to the location of te the femoral tunnel aperture on medial wall of lateral condyl from anatomical or non anatomical region. There is no golden standard in neither surgical technique nor material of fixation. Proper theoretical knowledge and extensive clinical experience are important in the light of an accurate surgical technique applied. We thought that information we have reached in our study should be supported by biomechanical studies

KEYWORDS: Anteromedial portal technique; graft fixation methods; isokinetic; anterior cruciate ligament reconstruction; transtibial technique; tunnel widening.

POSTER BİLDİRİLER DEVAMI

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P110 EVRE 3-4 PATELLOFEMORAL KONDROMALAZLİ HASTALARIN PATELLOFEMORAL EKLEM SAGİTAL DİZİLİM ANALİZİ

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AMAÇ: Evre 3-4 patellar kondromalazi olgularında patellofemoral eklemden sagittal plan diziliminin değerlendirilmesi ve patellofemoral eklem yüklenmelerinde meydana gelen değişikliklerin ortaya konması amaçlandı.

YÖNTEM: Evre 3-4 kondromalazisi olan , sagittal plan patellanın yükseklik bozukluğu (patella alta, baja) ve horizontal plan dizilim bozukluğu (patellar tilt, subluksasyon) olmayan 60 hasta ve 60 kontrol hastasının diz ekleminin MR görüntüleri değerlendirildi. 120 olgunun (78 kadın – 42 erkek) ortalama yaşı 53.31±8.15 idi. Patella-patellar tendon açısı (P-PT) ve patella alt uç ve tuberositas tibia (DP-TT) arasındaki mesafeler sagittal plan kesitlerinde ölçüldü. Patellanın yükseklik bozukluğu Caton-Deschamps indeksi ile patellar tilt Grelsamer metodu ile değerlendirildi. Evre 3-4 kondromalazi veriliği ile distal patella ile tuberositas tibia arasındaki mesafe (DP-TT) ve Patella Patellar Tendon (P-PT) açısı arasındaki ilişki incelendi. Her iki grupta elde edilen ortalama verilerle birer 3 boyutlu diz modellemesi yapıldı. Yapılan modellemeler üzerinden sonlu elemanlar analizi ile dizde meydana gelen yüklenmeler simüle edildi.

BULGULAR: Çalışmaya dahil edilen kondromalazik olgularda ortalama P-PT açısı anlamlı olarak daha düşük ($p < 0.05$); ortalama DP-TT mesafesi daha büyük ölçüldü ($p = 0.001$). Bu sonuçlar Evre 3-4 patellar kondromalazi gurubunda, patellanın sagittal plan rotasyonel dizilim bozukluğu olarak değerlendirildi. Sonlu elemanlar analizi ile yapılan basınç ölçümü sonucunda kondromalazik modelde 3,68 kat daha büyük yüklenme değerleri saptandı.

SONUÇ: Bilgimiz dahilinde bu çalışma patellofemoral eklem kondromalazisi ile sagittal plan rotasyonel dizilim bozukluğu arasında ilişkinin analiz edildiği ilk çalışmadır. Sonuçlarımız klasik radyolojik yöntemlerle herhangi bir dizilim bozukluğu saptanamayan ileri evre kondromalazik olgularında sagittal plan dizilim bozukluğu olduğunu göstermektedir. Kondromalazi patella olgularındaki bu dizilim bozukluğu patellofemoral eklemden artmış yüklenmelere neden olmaktadır. Sagittal plan rotasyonel deformitesinin değerlendirilmesinin gerek ön diz ağrısında gerekse de kondromalazi etyopatogenezinde göz önüne alınması gerektiğini düşünüyoruz.

ANAHTAR KELİMELEER: Kondromalazi, sagittal plan, dizilim, sonlu elemanlar analizi

POSTER BİLDİRİLER DEVAMI

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P111 DİRENÇLİ LATERAL EPİKONDİLİTTE ARTROSKOPİK TEDAVİ

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AMAÇ: Lateral epikondilit günlük ortopedi pratiğinde sıkça görülen, günlük yaşam aktivitesi ve kalitesini etkileyen ağrılı bir klinik tablodur. Tedavisinde çeşitli analjezik ve miyorelaksan ilaçlar, lokal enjeksiyonlar, germe egzersizleri gibi çok çeşitli yöntemler kullanılabilir. Birçok tedavi yöntemi olmasına rağmen dirençli vakalarla karşılaşmaktadır. Çalışmamızda dirençli lateral epikondilitte artroskopik tedavinin klinik ve fonksiyonel sonuçları bildirilmiştir.

YÖNTEM: 2010-2013 yılları arasında kliniğimizde lateral epikondilit tanısı alan, çeşitli konservatif tedavi yöntemleri uygulanan ancak fayda görmeyen toplam 5 dirençli lateral epikondilit hastasına artroskopik tedavi uygulandı. Tüm hastalar lateral epikondilit nedeniyle çeşitli ağrı kesici ve kas gevşetici ilaçlar kullanmış ve tekrarlayan enjeksiyonlar yapılmış. Konservatif tedavi yöntemleri ile fayda sağlanamayan toplam 5 hasta artroskopik yöntemle tedavi edildi. Lateral dekübit pozisyonunda standart portaller kullanılarak dirsek artroskopisi yapıldı. Eklem içinde muhtemel eşlik eden lezyonlar araştırıldı. ECRB tendonu artroskopik olarak ortaya konup tendonu gevşetildi. Ameliyat sonrasında dirsek eklemine hiçbir kısıtlama yapılmadı. Ortalama 33,6 ay (12-45) takip süresi sonrasında hastalar klinik olarak değerlendirildi. Ameliyat öncesi ve sonrası dönem VAS ve Nirschl skorumla sistemi ile karşılaştırıldı.

BULGULAR: 2 kadın 3 erkek toplam 5 hastanın ortalama yaşı 49,8(40-61) idi. Hastaların ortalama şikayet süresi 14 ay(12-36) idi. Tüm hastalara ortalama 1,8(1-3) kez steroid, lokal anestezi ve otolog kan enjeksiyonu yapılmış. Ameliyat öncesinde tüm hastalarda aktif dirsek hareketi tam idi. Artroskopik muayenede eşlik eden lezyon olarak 1 hastada radyokapitellar plika gözlemlendi. Plika eksize edildi. Hiçbir hastada kondropati gözlemlenmedi. VAS değerleri ameliyat öncesinde ortalama 6,4(5-8) iken ameliyat sonrasında ortalama 0,4 (0-1) idi. Ameliyat öncesinde Nirschl skorlamasına göre faz 4-6 arasında görülen hastaların tümü ameliyat sonrasında faz 1 olarak değerlendirildi. Hiçbir hasta cerrahi sonrasında lateral epikondilit için ek tedavi almadı. Hiç bir hastada dirsek hareketi kısıtlanma gözlemlenmedi.

SONUÇ: Dirençli lateral epikondilit tedavisinde artroskopik debridman ve ECRB tendonu gevşetme ameliyatı etkili bir tedavi yöntemidir. Hasta sayısı az olmakla birlikte alınan sonuçlar yüz güldürücüdür. Lateral epikondilit ile karışık durumların ayırt edilmesi, eşlik eden eklem içi patolojilerin tanısı ve aynı seansta tedavisi artroskopik yöntemin avantajıdır.

ANAHTAR KELİMELEER: Dirençli lateral epikondilit, Artroskopi, Dirsek

P112 ARD AYAK ARTROSKOPİSİ EŞLİĞİNDE TALAR KEMİK KİSTİ TEDAVİSİ

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AMAÇ: Ard ayak artroskopisi son yıllarda popüler hale gelmiş, bazı ayak bileğinin arka kısım hastalıklarının tedavisinde kullanılan minimal invazif bir yöntemdir. Gelişen tekniklerle birlikte sadece tanısıl amaçlı değil, aynı zamanda tedavi amaçlı da kullanılabilir. Bu yazıda talus cisminde basit kemik kisti olan hastanın ard ayak artroskopisi uygulanarak tanı ve tedavisi anlatılmaktadır.

YÖNTEM: Son 1 yıldır sol ayak bileğinde ağrı ve şişlik atakları ile seyreden 7 yaşında erkek hasta. Ayak bileği muayenesinde yürürken aksama, ağrı ve ayak bileğinde hafif çap artışı dışında bir bulgu gözlenmedi. Aktif ayak bileği hareketlerinde ağrı nedeniyle hafif derecede kısıtlanma mevcutken pasif hareket arki tamdı. Direk grafilerinde talus cisminde kemik kisti gözlemlendi. Bilgisayarlı Tomografi ve Manyetik Rezonans görüntüleme basit kemik kistini destekler bulgular gözlemlendi.

BULGULAR: Cerrahi işlem için hasta prone pozisyonda hazırlandı. Turnike şişirilerek posterolateral ve posteromedial portallerle ard ayak artroskopisi yapıldı. Tibiotalar eklem arka kısmında hafif dereceli sinovit dışında bulgu saptanmadı. Talus cismindeki kiste ulaşabilmek için floroskopi eşliğinde talus posterioruna burr ile kapak açıldı. Kist içeriğinden patolojik inceleme için örnekler alındı. Ameliyat sırasında frozen çalışıldı ve basit kemik kistini destekler nitelikte idi. Kist içeriği artroskopik olarak temizlendikten sonra toplam 45 cc spongios chips allograft ile greftleme yapıldı. Floroskopi kontrolü ile kistin tamamen greftlendiği görüldü. Ameliyat sonrasında kısa bacak alçı atelde takip edilen hasta 6 hafta süreyle yükten korundu. Altı hafta sonunda ayak bileği hareketleri ve tedrici yüklenme başlandı. Ameliyat sonrası 12. ayda yapılan son kontrolde ayak bileği hareketlerinin tam olduğu, ağrı olmadığı, hastanın tüm sportif ve oyun aktivitelerine katılabildiği görüldü. Ailenin ve hastanın kozmetik açıdan da memnun olduğu görüldü.

SONUÇ: Ard ayak artroskopisi ile yapılan talus cismini tutan basit kemik kistinin kesin tanı ve tedavisinin başarılı olduğu vakamızda tatmin edici sonuç alındı. Son yıllarda popüler hale gelen bu teknik ayak bileği arka kısmının hastalıklarının tedavisinde daha az invaziftir. Gerek kozmetik açıdan, gerekse de hastanın konforu açısından avantajları mevcuttur. Sunduğumuz vakada talus cismindeki basit kemik kistinin hem tanısının hem de tedavisinin tek bir işlemde halledilebilmesi nedeniyle hasta açısından daha konforludur.

ANAHTAR KELİMELEER: Arka ayak artroskopisi, Talus, Kemik kisti, Greftleme

POSTER BİLDİRİLER DEVAMI

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P113 ISOLATED DİSLOCATION OF PROXİMAL TİBİOFİBULAR JOİNT:A CASE REPORT

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OBJECTIVES: Proximal tibiofibular joint luxation is very rare condition and usually missed in the ED. The aim of the the study is if a patient is brought to ED with knee injury, we should keep in mind this pathology.

METHODS: A 23 year old man was admitted to emergency department with knee pain and restricted movement of the knee during the football match. Physical examination revealed mild swelling and limited ROM on his knee. We took AP and lateral X-rays immediately. We diagnosed the proximal tibiofibular luxation with X-rays. After diagnosing this injury we reduced this joint luxation with closed reduction immediately. Knee joint was immobilized with casting. Magnetic resonance imaging was applied .Casting was removed three weeks later after the diagnosis. Passive range of motion exercises were applied.

RESULTS: In the second month examination, there is no pain in his knee joint and the range of motion was full. There was no neurovascular pathology in the physical examination of the knee. In the MRI findings proximal tibiofibular ligament had mild eudema, there was a contusion area in the lateral plateau and the other knee ligaments was normal.

CONCLUSION: Proximal tibiofibular joint injury is very uncommon pathology, If the pathology is diagnosed on time , it can be treated appropriately to prevent unnecessary complication. The main problem of this injury is correct and timely diagnosis

KEYWORDS: Closed reduction,dislocation,proximal tibiofibular, joint, subluxation

POSTER BİLDİRİLER DEVAMI

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P114 OMUZ SIKIŞMA SENDROMU TEDAVİSİNDE YENİ BİR BANTLAMA TEKNİĞİ: BİR ÖN ÇALIŞMA

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AMAÇ: Bu çalışma omuz sıkışma sendromu tedavisinde yeni bir bantlama yöntemi ile erken dönem rehabilitasyon sonuçlarının değerlendirilmesi amacıyla yapılmıştır

YÖNTEM: Rotator manşet yırtığı olmayan, ek patoloji saptanmamış 4 hastaya bantlama öncesi Constant-Murley (C-M), Western Ontario Rotator Manşet Ölçeği (WORMÖ) ve Quick Disability of Arm, Shoulder, Hand (qDASH) skorlamaları yapıldı. Skapula stabilizasyonuna yönelik medial hat boyunca çapraz blok bantlama tekniği uygulandı. Hastalar omuz rahatsızlığı nedeniyle daha önce hiçbir fizik tedavi, bantlama veya başka bir tedavi almamış ve cerrahi tedavi görmemişti. Hastalar 4 gün arayla 4 seans bantlandı. Bu dönemde sadece antienflamatuar ilaç tedavisine izin verildi. Bantlama sonrası 1. ay skorları tekrar değerlendirildi.

BULGULAR: Hastaların bantlama öncesi ortalama Constant skoru 45 iken bantlama sonrası 81'e yükseldi. WORMÖ skoru bantlama öncesi 144 ten bantlama sonrası 39'a geriledi. QuickDASH skorları bantlama öncesi ortalama 60 iken bantlama sonrası 31 idi. Tüm hastalarda erken dönemde ilk seanstan itibaren olumlu geri dönüşler tespit edildi ve bunun sonucunda tedaviye olan uyumun arttığı izlendi.

SONUÇ: Kinezio bantlama omuz sıkışma sendromlarında halen kullanılan geçerli bir tedavi modalitesidir. Son dönem yayınlarda özellikle de erken dönem sonuçlarının başarılı olduğu gösterilmiştir. Ancak halen bantlama yöntemlerinin omuz bölgesinde hangi kinematik prensiplere dayandırılması gerektiği konusunda kesin veriler elde edilememiştir. Biz bu çalışmamızda 4 hastada sadece skapulanın stabilizasyonu prensibine dayanan bir teknikle bantlama yaptık. Omuz eklemine çevreleyen kaslara ve skapula lateralindeki bölgeye bantlama uygulanmadı. Hastaların 1. ay sonuçları oldukça tatmin edici olmasına rağmen daha fazla hastada çalışmanın devam etmesi ile daha sağlıklı veriler elde edilebilecektir.

ANAHTAR KELİMELER: Kinesiotaping, Scapulohumeral impingement syndrome

POSTER BİLDİRİLER DEVAMI

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P115 SLAP LEZYONLARININ TANI VE EVRELEMESİNDE MRI BULGULARIYLA ARTROSKOPİ SONUÇLARININ UYUMLULUĞU

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AMAÇ: Omuz SLAP lezyonları MRI ve artroskopik tanısının radyolojik ve ortopedik değerlendirilmesi sonucunda iki tanı yönteminin karşılıklı kör olarak uyumluluğunun belirlenmesi.

YÖNTEM: Prospektif olarak Radyoloji ve Ortopedi ortaklığında belirlenmiş kriterlerle Kasım 2012 ile Mart 2014 tarihi arasında omuz artroskopisi yapılan ve SLAP lezyonu tanısı konulan 44 hasta çalışmaya dahil edildi. Hastaların preoperatif MRI görüntüleri iki radyolog tarafından uzlaşma sağlanarak değerlendirildi ve evrelendirmesi 'gold standart' olarak kabul edilen artroskopi sonuçlarıyla verifiye edildi. Sonuçların uyumluluğunun karşılaştırılması Fleiss'in kappa katsayısı kullanılarak yapıldı. Ek olarak MRI ve artroskopi arasında uyumsuz(SLAP olup-olmaması), kısmi uyumlu(SLAP tipi uyumsuz) ve tam uyumlu(SLAP tipi uyumlu) olarak gruplandırıldı ve bunun yanında eşlik eden rotator manşet rüptürü varlığının MRI ile teşhisini araştırmak için Chi-Square testi kullanıldı.

BULGULAR: Hastaların 13'ü (%29) sol ,31'i (%71) sağ omuzundan SLAP nedeniyle omuz artroskopisi yapıldı. MRI sonuçları (11/44) %25 oranında tam uyumlu , (18/44) %41 oranında kısmi uyumlu ve (15/44) %34 olarak da uyumsuz bulundu. Sonuçta MRI ile artroskopi arası SLAP tipi teşhisinde zayıf uyum olduğu saptandı ($\kappa=0.035$). Bunun yanında eşlik eden rotator manşet lezyonunun MRI'da saptanması ise anlamlı korele olduğu görüldü($p=0.003$).

SONUÇ: SLAP lezyonlarının değerlendirilmesinde MRI; non-invaziv olması ve artroskopiye yol gösterici olması açısından önem taşımaktadır. Bizim hastanemizde muskuloskeletal sistem üzerine uzmanlaşmış , güvenilir bir radyolog ile çalışmamıza rağmen MRI ile girişimsel artroskopi arasında SLAP tipi açısından anlamlı korelasyon bozukluğu mevcuttur.MRI labral lezyonların tanısına her ne kadar yardımcı olsa da superior labrum lezyonların tipi açısından ciddi farklılıklar çıkabilmektedir.

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P116 ÖN ÇAPRAZ BAĞ REKONSTRÜKSİYON CERRAHİSİNDE OTOGREFT YA DA ALLOGREFT KULLANIMININ TÜNEL GENİŞLEMESİ VE KLİNİK ÜZERİNE ETKİSİ

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AMAÇ: Bu çalışmada, hamstring tendon otogrefti ve anterior tibial tendon allogrefti ile yapılan ön çapraz bağ rekonstrüksiyonunun femoral ve tibial tünel genişlemesi ve klinik skorlar üzerine etkisi araştırıldı.

YÖNTEM: Diz içi ve eklem dışı ek patolojileri olmayan daha önce diz operasyonu öyküsü olmayan ve karşı taraf diz de patoloji ve operasyon öyküsü bulunmayan izole ön çapraz bağ rüptürü olan hastalar çalışmaya alındı. İki grup oluşturuldu. Her iki grupta Endobutten CL implantı kullanıldı. Cerrahi teknik olarak anatomik portal tekniği uygulandı. Grup 1 de hamstring otogrefti kullanıldı, Grup 2 de ise anterior tibial tendon allogrefti kullanıldı. Grup 1'de 25 hasta (ortalama yaş 27.35, dağılım 19-51 yaş). Grup 2 de 25 hasta (ortalama yaş 28.50, dağılım 17- 44 yaş) olmak üzere 50 hastaya cerrahi uygulandı. Tüm hastala hem subjektif hem de objektif kriterlere dayanan İnternasyonal Diz Dokümantasyon Komitesi Değerlendirme Formu (IKDC), Tegner aktivite skalası, Lysholm II Fonksiyonel skorlamasına göre değerlendirildi. Kas gücü ölçümleri her iki grupta sağlam dizle karşılaştırılarak Biodex System 3 Pro izokinetik dinamometre ile ölçüldü. Femoral ve tibial tünel genişliği bilgisayarlı 3D rekonstrüktif tomografi ile görüntüledi. Tüm ölçümler aynı radyolog tarafından aynı yazılım programı kullanılarak yapıldı

BULGULAR: Her iki grup arasında yaş, cinsiyet dağılımı, takip süresi, travma sonrası cerrahiye geçen zaman ve ameliyat süreleri açısından anlamlı fark yoktu ($p>0,05$). İki grupta da ameliyat sonrası elde edilen klinik skorlar ameliyat öncesine göre anlamlı düzelmeye gösterdi ($p=0,0001$). Ancak ameliyat sonrası klinik sonuçlar iki grupta anlamlı farklılık göstermedi ($p>0,005$). İzokinetik kas gücü çalışması iki grup arasında anlamlı farklılık göstermedi ($p>0,005$). Tünel genişlemesi açısından iki grupta anlamlı farklılık göstermedi ($p>0,005$).

SONUÇ: Klinik olarak iki grup arasında istatistiksel olarak anlamlı fark olmamasına rağmen allogreft kullanılan hastalarda ameliyat sonrası erken dönemde daha az ağrı geliştiği, daha rahat rehabilitasyon programı uyguladıkları gözlenmiştir. Ancak takiplerinde radyolojik ve klinik skorlar açısından anlamlı fark saptanmamış olup uygun vakalarda allogreftin iyi bir otogreft alternatifini olabileceğini düşünmekteyiz.

ANAHTAR KELİMELELER: Hamstring otogreft; Allogreft ; izokinetik; ön çapraz bağ rekonstrüksiyonu; tünel genişlemesi.

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P117 ARTROSKOPİ AMELİYATLARI SONRASI VÜCUT KİTLE İNDEKSİ DEĞİŞİMİ VE BUNUN FONKSİYONEL SONUÇLARA ETKİSİ

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AMAÇ: Artroskopik girişimler ortopedik cerrahinin en sık uygulanan ameliyatlardır. Artroskopik cerrahilerin fonksiyonel sonuçları üzerine etki eden faktörlerden biride obezitedir. Artroskoi yapılan hastalar ameliyat sonrası dönemde immobilizasyona bağlı olarak kilo alabilmektedir. Biz çalışmamızda artroskopi yapılan hastaların ameliyat sonrası dönemdeki vücut kitle indekslerinin (VKİ) değişimleri ve bu değişimlerin fonksiyonel skorlar üzerine olan etkisini sunmayı amaçladık.

YÖNTEM: Çalışmamıza Ekim 2010- Ekim 2012 tarihleri arasında kliniğimizde artroskopi yapılan 594 hastadan verileri düzenli olarak tutulan 286 hasta dahil edildi. Bu hastaların 202'si erkek (%70,6), 84'ü bayandı (%29,4). Ortalama yaş 40,3 (12-81), ortalama takip süresi 14,2 (6-29) ay olarak tespit edildi. 157 diz, 111 omuz ve 17 kalça artroskopisi olgumuz çalışmaya dahil edildi. Tüm hastalarımıza ameliyat öncesi ve sonrası kontrollerinde ilgili eklem fonksiyonel skorlaması yapıldı ve hastaların VKİ not edildi. Skorlama olarak meniskopati hastalarında IKDC, bağ yaralanmalarında Tegner Lysholm skoru, omuz artroskopilerinde WOSI skoru, kalça artroskopilerinde Harris Hip skorunu kullanıldı. Çalışmamızda hastaların 6. ay VKİ değişimi ile FS değerleri karşılaştırıldı.

BULGULAR: Tüm hastalara ait VKİ'leri ortalamaları ameliyat öncesi dönemde 25,29, ameliyat sonrası 1.ayda 25,59, ameliyat sonrası 3.ayda 25,68, ameliyat sonrası 1.yılda 25,72 olarak ölçülmüş ve istatistiki olarak Repeated Anova testi ile değerlendirilmiştir ve VKİ değişimi anlamlı bulunmuştur($p<0,001$). Gruplar kendi aralarında Bonferroni Testi ile değerlendirildi ve diz, omuz ve kalça artroskopisi yapılan hasta gruplarında ameliyat öncesi VKİ değerleri ile ameliyat sonrası 1, 3 ve 6.ay VKİ değerleri arasındaki artış anlamlı bulundu ($p=0,005$; $p<0,001$; $p<0,001$). Ayrıca diz ve omuz artroskopisi yapılan hasta gruplarının ameliyat sonrası 1.ay VKİ değerleri ile ameliyat sonrası 6.ay VKİ değerleri arasındaki artış da anlamlı olarak tespit edildi ($p=0,011$; $p=0,003$). Artroskopi yapılan hastaların ameliyat öncesi ve ameliyat sonrası 6.aydaki VKİ ve fonksiyonel skorları kendi içerisinde ayrı ayrı Oneway Anova testine göre değerlendirildiğinde VKİ'de görülen artışın fonksiyonel skorlarla anlamlı ilişkisi olmadığı görüldü ($p>0,05$).

SONUÇ: Diz, omuz ve kalça eklemine artroskopi yapılan hastalar ameliyat sonrası dönemde kilo alabilmektedirler. Bu durum ameliyat öncesi hastalara bildirilmeli ve beslenme ve aktivite modifikasyonuna tabi tutulmalıdır. Ortopedi olarak bu durumun fonksiyonel sonuçlara etki etmediği akıld tutulmakla beraber diğer sağlık nedenleri açısından da bu konuda önlem alınmalıdır.

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P118 İLERİ HALLUKS VALGUS OLGULARINDA PROKSİMAL OSTEOTOMİNİN EKSTERNAL FİKSATÖR YARDIMLI DÜZELTİLMESİ, KADAVRA ÇALIŞMASI

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AMAÇ: Proksimal metatarsal osteotomi ileri derecede halluks valgus olgularında yüksek derecede düzeltme sağlayabildiği için tercih edilmektedir. İlk proksimal osteotomi deneyimlerinin bildirildiği 1901 yılından beri birçok osteotomi tekniği tarif edilmiş ve klinik ve biyomekanik çalışmalarla osteotomiler ve tespit yöntemleri tartışılmıştır. Biz çalışmamızda minimal invazif şekilde yaptığımız proksimal metatarsal osteotominin eksternal fiksator ile perkütan tespitine imkan sağlayan yeni dizayn ettiğimiz implantın kadavra çalışması sonuçlarını sunmayı amaçladık.

YÖNTEM: Tasarladığımız metatarsal eksternal fiksatorü ayaklarında 4 kadavranın 8 ayağına uyguladık. Kadavraların ortalama halluks valgus açısı (HVA) 28,16 (18-44) derece, ortalama intermetatarsal açısı (IMA) 10,6 (8-14) derece olarak tespit edildi. Fiksator 1.metatars gövdesine paralel olacak şekilde ayak dorsaline yerleştirildi ve 5 adet 2,5 mm'lik şanz vidaları ile tespit edildi. Birinci metatars proksimal medialine longitudinal mini insizyon ile 1. metatars proksimal metafizodiazifer bölgesinden dril ve oluklu osteotom yardımıyla perkütan kubbe osteotomi yapıldı. Skopi ile Schanz vidalarının yerleşimi kontrol edildikten sonra proksimaldeki kayıcı klemp ile metatarsal osteotomi bölgesinden valgizasyon efekti ve eksternal fiksator üzerindeki uzatma cihazı ile 10 mm lik kompresyon-distraksiyon yapılabildiği görüldü. Sonrasında fiksator çıkarılarak Schanz vidaları yerinde bırakıldı ve metatars dorsalinden yapılan insizyonla Schanz vidalarının tendon ve damar sinir yapılarına uzaklığı değerlendirildi.

BULGULAR: Kayıcı klemp proksimalde olduğu için minimal bir manüplasyon ile distalde deformitenin gözle görülür şekilde düzeldiği görüldü. Postoperatif çekilen skopi görüntülerinde halluks valgus açısının ortalama 12,6 (8-17) derece, intermetatarsal açısının ortalama 7,6 (5-9) derece azalarak deformitenin klinik ve radyolojik olarak düzeldiği tespit edildi. Hiçbir Schanz vidalasının ekstansör tendonlardan geçmediği görüldü. 1.metatars dorsal medial ve lateralinde seyreden peroneal sinirin dorsal dijital dallarının pin traktında olmadığı ve sağlam oldukları görüldü. EHL tendonu ile vida arası mesafe ortalama 1,4 mm, dijital sinirler ile vidalar arası mesafe ise ortalama 11 mm olarak ölçüldü.

SONUÇ: Özellikle IMA'nın fazla olduğu halluks valgus deformitesinde proksimal osteotomi ile halluks valgus deformitesi tatmin edici düzeltmeler elde edilir. Proksimal osteotomi için birçok teknik tanımlanmıştır. Tasarladığımız halluks valgus fiksatorü kolay uygulanabilir ve klinik ve radyolojik olarak tatmin edici şekilde düzeltme sağlarken 10 mm ye kadar uzatma ve gerekirse ameliyat içi osteotomi hattına kompresyon imkanı sağlamaktadır. Böylece, halluks valgus cerrahisinin istenmeyen komplikasyonlarından olan metatarsal kısıklık problemi ve yeterli düzeltme veya aşırı düzeltme gibi problemler ameliyat sonrası tedrici olarak düzeltilebilir. Ayrıca proksimal osteotominin perkütan yapılabilmesi kaynama ve fiksasyon sırasındaki problemleri en aza indirir. Tasarladığımız halluks valgus fiksatorü, proksimal metatarsal osteotominin endike olduğu halluks valgus deformitelerinde güvenli ve kolay bir uygulamayla klasik yöntemlere alternatif olarak kullanılabilir.

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P119 PLATO TİBİA KIRIĞI SONRASI REZİDÜEL LAKSİTENİN RADYOLOJİK VE KLİNİK SONUÇLARLA İLİŞKİSİ

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AMAÇ: Plato tibia kırıklarında kemik hasarı kadar eşlik eden yumuşak doku hasarının ağırlığı da fonksiyonel sonuçlara etki eder. Özellikle menisküs medial kollateral bağ, posterolateral köşe ve çapraz bağ travmaları kırık tamiri sonrası klinik instabilite nedeni olabilmektedir.

YÖNTEM: Çalışmamıza 2008-2013 yılları arasında tedavi edilen, plato tibia kırığı olan 126 vaka çalışmaya dahil edildi. Kırık öncesi diz bağ yaralanması anamnezi olmayan, artroskopi hikayesi olmayan ve çalışmamıza katılmayı kabul eden 32 hasta dahil edildi. Kırık tipleri ve redüksiyon teknikleri ile dizde sekel kalan instabilite arasındaki ilişki dijital KneeLax ölçümüyle dökümente edildi. Hastaların tümüne postop erken ve geç dönem radyolojik inceleme yapıldı. Tam lateral grafi üzerinden PACS programı ile hastaların heriki diz tibial slope değerleri ölçüldü. Tüm hastalara IKDC ve Lysholm skorlamaları ile fonksiyonel değerlendirmeleri yapılarak tibial slope ve instabilitesi ile korelasyonu araştırıldı.

BULGULAR: Hastaların 16'sı erkek (%50), 16'sı kadın (%50) ve yaş ortalaması 50 (29-72) olarak bulundu. Travma sonrası kontrol süresi ortalama 34,15 (12-58) ay olarak tespit edildi. Schatzker kırık tipine göre sınıflandırıldığında 9 hastada tip 2, 12 hastada tip 3, 6 hastada tip 5 ve 5 hastada tip 6 kırık olduğu görüldü. Hastaların yaş, cinsiyet, taraf ve postopertif süre (ay) dağılımları arasında anlamlı fark olmadığı görüldü ($p>0.05$). Schatzker sınıflamasına göre değerlendirilen kırık vakalarında kırık tipi kötüleştiğçe (tip 1'den 6'ya doğru gittikçe) Tegner skorunun ve eklem fleksiyon arkının anlamlı ölçüde kötüleştiği belirlendi ($p=0.045$, $p=0.021$). Sağlam dizinde sloop fazla olan hastalarımızda heriki diz arası sloop farkı anlamlı ölçüde fazla bulundu ($p=0.001$). Bu hastalarda sağlam diz fleksiyon arki kırık dizden anlamlı olarak daha genişti ($p=0.006$). Kırık ve sağlam dizler arası KneeLax farkının fazla ölçüldüğü hastalarda, kırık taraf Tegner skoru anlamlı ölçüde düşük bulundu ($p=0.03$).

SONUÇ: Plato tibia kırıkları genelde yüksek enerjili travmalar olduğundan kemik doku ile birlikte yumuşak doku da yaralanmaktadır. Eklemde bağ yaralanmasına sekonder instabilite kalması hastanın postop konforunu ve yaşam kalitesini etkileyebilmektedir. Cerrahi esnasında genel olarak sloopun fazla düzeltildiği ve bunun eklem hareket açıklığını kısıtladığını, rezidüel laksitenin hastanın fonksiyonel sonuçlarını ve konforunu azalttığını düşünmekteyiz.

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P120 DO THE PATIENTS REALLY NEED CONCENTRATED AND/OR ACCELERATED REHABILITATION PROGRAM AFTER ACL SURGERY? A NEW LIGHTENED REHABILITATION PROGRAM: A PROSPECTIVE- DOUBLE BLIND- RANDOMIZED-CONTROLLED STUDY

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OBJECTIVES: The purpose of this study was to design and assess the outcomes of the new lightened rehabilitation program after anterior cruciate ligament reconstruction (ACL-R).

METHODS: Thirty-two of the 57 patients with ACL-R using tibialis anterior grafts completed the study. The patients in the lightened rehabilitation program were compared with patients in standard rehabilitation program. The two groups were assessed using International Knee Documentation Committee (IKDC) and Lysholm scores, isokinetic knee muscle strength, knee joint position sense, and hop test.

RESULTS: There were no significant differences in muscle strength of the quadriceps and hamstring at 60°/s, 180°/s, and 330°/s between the operative and non-operative side in the lightened rehabilitation group while there was significant difference in muscle strength of the quadriceps and hamstring at 60°/s between the operative and non-operative side in the standard rehabilitation group. There were significant differences in muscle strength of the quadriceps and hamstring at 330°/s and joint position sense at 75°, 45°, and 15° between the operative side of the patients in lightened rehabilitation group and operative side of the patients in standard rehabilitation group. There was no difference in the knee joint position sense at 15°, 45°, and 75°, between the operative and non-operative side in the both groups.

CONCLUSION: Clinical relevance of this study is that the new lightened rehabilitation program should be also succeeding as much as standard rehabilitation program after ACL-R. It is suggested that future studies might evaluate the effects of the new lightened rehabilitation program for different grafts and professional athletes.

KEYWORDS: ACL reconstruction, Rehabilitation, Tibialis anterior (TA) tendon, Strength, Proprioception.

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P121 UPPER QUARTER Y-BALANCE TEST SCORE OF PATIENTS WITH SHOULDER IMPINGEMENT SYNDROME

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OBJECTIVES: The Upper Quarter Y Balance Test (UQYBT) is a reliable upper extremity closed kinetic chain test that can be used to assess unilateral upper extremity performance in a closed chain manner. However, UQYBT was tested only in recreational athletes and there are no studies investigating UQYBT scores in patients with various upper extremity musculoskeletal injuries. The purpose of this study was to examine differences in performance on the Upper Quarter Y Balance Test between patient with shoulder impingement syndrome and healthy controls.

METHODS: A sample of fifteen patients with shoulder impingement syndrome (mean age 32.2 ± 4.2 years) and fifteen healthy control (mean age 33.8 ± 6.2 years) performed the UQYBT. UQYBT was collected bilaterally in three directions (medial, inferolateral, and superolateral). The maximum reach distance for each direction was normalized to upper extremity length (spinous process of C7 to tip of middle finger) and used for analysis

RESULTS: A significant difference in performance between patients with shoulder impingement syndrome and healthy controls existed in the medial direction ($P < 0.05$) and the inferolateral direction ($P < 0.05$) where the healthy controls performed better. There was no significant difference in superolateral performance.

CONCLUSION: The results of this study suggest that patients with shoulder impingement syndrome will perform worse on the UQYBT in the medial and inferolateral directions than healthy controls. Thus, upper extremity closed kinetic chain exercises should be added in shoulder rehabilitation programs.

KEYWORDS: Upper extremity, Y balance, functional performance

P122 ISOKINETIC STRENGTH PROFILE OF SHOULDER INTERNAL AND EXTERNAL ROTATORS OF ADOLESCENT VOLLEYBALL PLAYERS

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OBJECTIVES: The aim of this study was to investigate the effects of limb dominance and gender on isometric, eccentric and concentric strength of the shoulder internal and external rotator muscles in adolescent volleyball players

METHODS: Forty adolescent volleyball players [Male: 23(Age: 15.5±1.4 yrs, Body weight: 72±10.2 kg, Height: 184.4±7.6 cm, BMI: 20.9±2.6 kg/m²), Female: (Age: 16.7±0.9 yrs, Body weight: 60.7±8.2 kg, Height: 172.5±5.3 cm, BMI: 20.4±2.3 kg/m²) participated in this study. Isomed 2000 isokinetic dynamometer was used to measure muscle strength testing. Isometric strength testing of shoulder internal and external rotator muscles were performed at 90 ° shoulder abduction and external rotation position. In the same position, concentric and eccentric muscle testing was performed at 90°/s angular velocity. Strength outcomes were recorded as Nm/kg. 2-way repeated measures of ANOVA was used for statistical analysis.

RESULTS: Dominance by gender interaction was not found significant for internal rotator (IR) and external rotator (ER) muscles' strength (IR: F(1,72)=2.87, p=0.06, ER: F(1,72)=1.98, p=0.15). There was a significant strength by dominance interaction for internal rotator muscles (F(2,72)=18.52, p<0.001). Isometric strength was greater in dominant limb (p<0.001) while concentric strength was found greater in non-dominant limb (p=0.006). Eccentric strength was found similar for limbs (p=0.18). IR muscles showed greater strength during eccentric (1.03±0.05), concentric (0.76±0.03) and isometric test (0.69±0.03), respectively. On the other hand, external rotators showed greater strength during eccentric (0.49±0.4), isometric (0.40±0.3) and concentric test (0.36±0.3), respectively. There was no significant gender effect on the strength (IR: F(2,72)=0.31, p=0.73, ER: F(2,72)=0.42, p=0.66).

CONCLUSION: The strength of shoulder internal and external rotator muscles do not differ according to gender in adolescent volleyball players. Limb dominans has an effect on the strength of internal rotator muscles while it has no effect on the strength of external rotators. Both muscle groups show greater strength during eccentric testings.

KEYWORDS: Shoulder, strength, sport

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P124 SHORT TERM EFFECTS OF MOBILIZATION TECHNIQUES ON NECK PAIN AND DEEP NECK FLEXOR MUSCLE ENDURANCE IN PATIENTS WITH MECHANICAL CHRONIC NECK PAIN

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OBJECTIVES: The aim of the study was to investigate short term effects of cervical and scapular mobilization techniques on neck pain and deep cervical muscles endurance in chronic mechanical neck pain patients.

METHODS: 22 chronic mechanical neck pain patients four male 18 female (mean age : mean±sd 35.59± 15.85) were included. Before treatment, neck pain level (visual analog scale) and deep neck flexor muscles endurance (in supine position with digital chronometer) of all patients were evaluated. Cyriax cervical mobilization for 10 minutes and scapular mobilization for 10 repetition 10 sets were performed to patients as treatment protocols. After treatment, 24 hours after and a week after evaluations of neck pain and deep cervical muscles endurance were repeated.

RESULTS: Before treatment Neck pain Visual Analog Scale scores was 5.78±1.43 point, 2.80±1.99 point after treatment, 24 hours later 3.36±2.12 point, one week later 3.91±2.24 point. This alteration was found significant statistically ($p<0.01$). Before treatment deep cervical flexor muscle endurance score was 27.25±17.74 sec, after treatment 39.46±25.20 sec, 24 hours later 38.67±28.43 and one week later 40.11±27.82 sec. This alteration was also found significant statistically ($p=0.01$).

CONCLUSION: Initially neck pain scores in our subjects decreased quickly, after 24 hours these scores increased but last scores were below first neck pain level in a week follow-up. Deep neck cervical flexor muscles test scores also increased quickly, after 24 hours later these scores were stable along a week. Mobilization techniques are effective methods on neck pain and endurance in chronic mechanical neck pain patients.

KEYWORDS: Neck pain, deep cervical muscle endurance, mobilization techniques

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P125 RELATIONSHIP BETWEEN FUNCTIONAL KNEE JOINT POSITION SENSE AND FUNCTIONAL PERFORMANCE SCORES FOLLOWING ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION (PILOT STUDY)

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OBJECTIVES: The aim of this study was to assess the relationship between functional knee joint position sense (JPS) and functional performance following ACL reconstruction

METHODS: Seven male patients (mean age=32,66 ±6,47) who had undergone ACL reconstruction and 10 male healthy control subjects participated in the study. Knee joint position sense was evaluated by reproduction of 20° knee flexion angle in weight-bearing position with single and bilateral limb movement into flexion and extension. The deviations in the angle were recorded and compared to both noninjured side and healthy controls'. Functional performance was evaluated with Single Leg Hop Test in both injured and non-injured sides. The scores were also compared with healthy controls and non-injured sides. Relationship between measured values was tested with Spearman Correlation Analysis.

RESULTS: There was no significant difference in knee joint position sense in functional position between the operated and uninjured knees of patients or between patients and healthy controls ($p>0,05$). However, there is significant difference in Single Leg Hop test scores between operated and non-operated or between patients and healthy controls ($p=0,037;p<0,05$). There was no significant correlation between Single Leg Hop test scores and knee joint position sense ($p>0,05$).

CONCLUSION: There was no evidence of impaired joint position sense in weight-bearing positions in subjects with ACL reconstruction but there was a decrease in functional performance. This decrease in functional performance may depend on the other parameters except proprioceptive deficits.

KEYWORDS: ACL-reconstruction, joint position sense, functional performance

P126 CORRELATION BETWEEN SKAPULAR DYSKINESIS TEST AND LATERAL SCAPULAR SLIDE TEST IN SCAPULAR ASSESSMENT

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OBJECTIVES: Alterations of the normal position or any abnormal motion of the scapula during active motions of shoulder is termed Scapular Dyskinesis (SD). SD is quite common in overhead athletes with or without shoulder pain. In addition to overhead athletes, SD has also been identified in healthy, asymptomatic individuals. Although there are several proposed methods to identify SD, there are two common methods used in clinical practice; as Lateral Scapular Slide Test (LSST) and Scapular Dyskinesis Test (SDT). SDT was developed as a dynamic functional test after the development of LSST which is a static measurement. SDT has also relatively higher reliability than LSST. In the 2013 consensus statement from 'scapular summit', SDT was recommended as a simple and reliable method for scapular assessment because of being a dynamic functional assessment method. The purpose of this study was to investigate the correlation of these two observational tests in asymptomatic population.

METHODS: Eighty-three healthy participants (mean age 21.74 ± 2.3 years, 166 arms, 32 Female-51 Male) were recruited. Participants were eligible if they were ≥ 18 years of age, having active full shoulder motion, and who have no health problem to hinder them from participate. Individuals with symptoms produced by cervical spine motion, impingement syndrome, frozen shoulder, shoulder instability and a history of shoulder fracture/surgery were excluded. All participants performed SDT and LSST in a random order. Pearson's chi-squared test was used for statistical analysis.

RESULTS: SDT detected SD in 44 participants (53%), LSST detected SD in 30 participants (36%). 20 participants (24%) determined as having SD in both tests. There was a moderate significant correlation between SDT and LSST ($p=0.000$, Pearson Chi-Square value=32.856, $\Phi=0.445$).

CONCLUSION: SDT and LSST have moderate correlation in identifying SD. In recent years, it is suggested that scapula shouldn't be assessed in static positions/postures. Although both SDT and LSST show the presence of SD, they don't evaluate SD in the same way because of the fact that LSST is a static assessment method whereas SDT is a dynamic method. Furthermore, SDT has higher reliability rather than other static assessment methods. Moderate correlation between these two tests may not always provide compatible outcome. For these reasons, we don't recommend the use of LSST solely or instead of SDT in examination of SD. LSST's complementary role in determination of SD with other assessment methods is arguable due to reliability issues. Optimal observational assessment algorithm in determination of SD should be investigated in future studies.

KEYWORDS: Asymptomatic population, Lateral Scapular Slide Test, Scapular Assessment, Scapular Dyskinesis, Scapular Dyskinesis Test

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POSTERS PAPERS CONT'D

P127 FUNCTIONAL STRENGTH RATIO IN ATHLETES WITH AND WITHOUT GLENOHUMERAL INTERNAL ROTATION DEFICIT (GIRD)

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OBJECTIVES: Eccentric external rotator (ER) and concentric internal rotator (IR) strength is expressed as a functional strength ratio (ER:IR) for shoulder. The difference in functional strength ratio has been well documented in athletes, but no one compared the functional ratio in athletes with glenohumeral internal rotation deficit (GIRD). The aim of this study was to investigate the effects of GIRD on functional ER:IR strength ratio of the adolescent athletes.

METHODS: Fifty-three adolescent athletes (12-18 years) from basketball and volleyball teams participated in the study. All the athletes were filled a questionnaire to obtain demographic information and information about their sporting activity. To determine the GIRD, the range of glenohumeral internal rotation motion was measured with the use of a digital inclinometer. An isokinetic dynamometer was used for the assessment of eccentric and concentric muscle strength of the dominant and non-dominant shoulders. Student-t test was used to assess the difference on ER:IR strength ratio between groups.

RESULTS: After the clinical examination of all shoulders the athletes were divided into 2 different groups, which were shoulders with glenohumeral internal rotation deficit (Group 1, n=34) and shoulders without GIRD (Group 2, n=22). There was a significant difference among groups on functional ER: IR strength ratio ($t=-2.172$, $p=0.034$). The ratio was lower in shoulders with GIRD.

CONCLUSION: GIRD has an adverse affect on functional shoulder ratio, which is one of the causes of shoulder injuries in adolescent athletes. Therefore, GIRD should be treated to prevent future injuries.

KEYWORDS: Glenohumeral internal rotation deficit, functional strength ratio, athletes

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P130 AN EIGHT-WEEK THORACIC STABILIZATION EXERCISE PROGRAM IMPROVES POSTURAL BACK PAIN AND SPINE ALIGNMENT OF UNIVERSITY STUDENTS WITH BACK PAIN

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OBJECTIVES: The study aimed to investigate effects of thoracic stabilization exercises on postural back pain, spinal alignment and inclination in university students who had postural back pain.

METHODS: University students who had minor to moderate postural back pain (18-25 years) were randomly allocated into Exercise (n = 28) and Control (n = 25) Groups. The programs were carried out 8 weeks and 3 days/week. The postural back pain intensity was assessed by Visual Analogue Scale. Spinal alignment and spinal inclination were evaluated with the Spinal Mouse® (Idiag, Fehraltorf, Switzerland). Assessments were applied before (BP) and after program (AP). Wilcoxon and Mann Whitney U tests were utilized.

RESULTS: The significant differences were observed for postural back pain (BP: 1.33 (1.16); AP: 0.33 (1.16)), thoracic curvature (BP: 44.50 (11.75); AP: 36.50 (13.25)), lumbar curvature (BP: -29.00 (10.00); AP: -7.00 (19.50)) and spinal inclination (BP: 5.00 (5.25); AP: 0.00 (4.00)) in Exercise Group between BP and AP (p<0.05). No significant differences were observed in Control group for all the parameters (p>0.05). The intergroup comparison showed that postural back pain, thoracic curvature, lumbar curvature and spinal inclination decreased in Exercise Group in comparison to Control Group (p<0.05).

CONCLUSION: The exercise program with eight weeks regular practice was effective on improving postural back pain, spinal alignment and inclination in university students with postural back pain.

KEYWORDS: Back pain, spinal alignment, spinal inclination

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P131 SCAPULAR WINGING: EFFECTS OF SCAPULAR MUSCLE TRAINING WITH PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION TECHNIQUES ON SHOULDER STRENGTH AND FUNCTION

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OBJECTIVES: To investigate the effects of scapular muscle training with proprioceptive neuromuscular facilitation techniques (PNF) on shoulder muscle strength, endurance and function in subjects with winging scapula.

METHODS: Forty subjects with bilateral winging scapula were randomly allocated into PNF Group (n=20, age:20.85±1.34 years), and Controls (n=20, age:20.77±1.77 years). PNF techniques in scapular diagonals were applied for scapular positioning and toning of the surrounding muscles for 3 days/week, 5 weeks. Shoulder muscle strength was evaluated diagonally with Biodex System 3 Pro isokinetic dynamometer (Biodex Medical Systems, Shirley, USA) at 60 and 180°/sn. The scapular muscle endurance with Scapular Isometric Pinch Test, functional ability with Disability of the Arm, Shoulder and Hand Questionnaire (DASH) was assessed. Paired and independent t tests were used for analysis.

RESULTS: For pre (1) and post (2) applications, significant improvement on 60°/s flexion peak torque/bodyweight (1:36.78±13.05; 2:61.22±29.75), 60°/s extension peak torque/bodyweight (1:65.35±23.27; 2:80.18±38.66), 180°/s flexion peak torque/bodyweight (1:40.69±15.32; 2:50.84±23.90) on dominant sides; scapular endurance (1:31.95±23.06; 2:51.15±31.08 sn) and DASH score (1:7.86±12.00; 2:5.25±9.28) were found in PNF group (p<0.05). However, no significant difference was observed for Controls (p>0.05). Scapular endurance, flexion and extension peak torque/bodyweight at 60°/s were different in favor of PNF group in intergroup comparisons (p<0.05).

CONCLUSION: Scapular muscle training with PNF may be effective in improving scapular and shoulder muscle strength, endurance and function in subjects with winging scapula.

KEYWORDS: Proprioceptive neuromuscular facilitation, muscle strength, upper extremity function, winging scapula

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POSTERS PAPERS CONT'D

P132 HEALTH-RELATED PHYSICAL FITNESS PROFILES OF WOMEN WHO ATTEND REGULAR ACTIVITY CLASSES

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OBJECTIVES: The study aimed to investigate physical fitness profiles of women who attend activity classes of a regularly.

METHODS: Two hundred thirty one healthy women (age: 37.80 ± 9.45 years, weight: 75.46 ± 13.72 kg, height: 1.62 ± 0.05 m.) who regularly attended activity classes of a town sport center were participated. Body composition with bioelectrical impedance analysis (Bodystat 1500, Bodystat Ltd., England), cardio-respiratory fitness with UKK 2 km walk test, muscle strength of lower extremity with Biodex System 3 isokinetic dynamometer (Biodex Medical Systems, USA), hand grip with hand dynamometer (Chattanooga, TN, USA) and upper extremity endurance with push-ups test, trunk strength and endurance with back/leg/chest dynamometer (Baseline, USA) and static back extension, flexibility with sit and reach test were assessed.

RESULTS: Body mass index, fat mass, fat percentage, dry lean mass and waist hip ratio were as follows: 28.69 ± 5.11 kg/cm²; 28.65 ± 10.22 kg; 37.08 ± 7.59 ; 12.74 ± 2.47 kg; 0.83 ± 0.06 . They were overweight and fat percentage was over the border. One hundred forty eight participants completed the 2 km walk test. VO₂ max according to the calculations of the test was found 132.63 ± 17.80 which is slightly over the normal values. Lower extremity muscle strength at 60°/s for knee extension (123.43 ± 45.02 ; 115.76 ± 44.19 N/M) and flexion (70.68 ± 27.49 ; 68.13 ± 26.11 N/M) of right and left extremities were given respectively. Hand grip was 26.59 ± 7.05 N on the dominant side. Push up scores were 19.09 ± 6.24 rep/40 sec. Trunk strength 71.44 ± 24.90 N, trunk endurance with static back extension was 45.14 ± 29.36 sec. which is quite poor. Flexibility was 10.73 ± 7.58 cm.

CONCLUSION: Although the cardio respiratory functions of the participants who had tolerate the test were fine, body composition and musculoskeletal fitness results were found poor. Attention must be paid for the musculoskeletal fitness and weight control for this women.

KEYWORDS: Physical fitness, regular activity, women

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POSTERS PAPERS CONT'D

P133 ACUTE EFFECT OF THUMB SPICA TAPING ON GRIP STRENGTH AND ENDURANCE IN PROFESSIONALS HANDBALL PLAYER: A PILOT STUDY

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OBJECTIVES: Thumb metacarpophalangeal (MCP) joint injury is frequently seen due to dynamic character of handball game. Spica taping is generally applied to protect thumb during returning to sports activities following rehabilitation in handball player. The aim of this study was to investigate the effect of spica taping on grip strength and grip endurance in professional handball players.

METHODS: Thirteen female handball players who was playing in Turkey Handball Federation Super League participated in the study. Mean age was 25.23 ± 5.47 years, mean age of beginning to sports was 13.15 ± 5.62 years, mean body mass index was (BMI) 22.38 ± 2.74 kg/cm². Hand grip strength and grip endurance in dominant side were evaluated before and after spica taping. "Jamar Hand Dynamometer" was used to assess hand grip strength. Grip endurance was measured in seconds during half of average grip strength sustaining for each players. All assesments were applied while sitting during shoulder adduction and neutral rotation with 90° elbow flexion, forearm midrotation, and neutral wrist position. Measurements were repeated 3 times and average values were recorded.

RESULTS: There was a statistically significant difference in grip strength between before and after spica taping application ($p < 0.001$). There was a statistically difference in grip endurance between before and after spica taping application ($p < 0.001$).

CONCLUSION: Our results demonstrated that thumb spica taping is effective in improving grip strength and grip endurance in handball players. We suggest that supporting thumb stabilization without limiting hand functions might protect the MCP joint, and contribute injury prevention accompanying with improving sports performance. Consequently, thumb taping is recommended to handball players before competition.

KEYWORDS: Handball player, spica taping, grip strength, grip endurance

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P136 A COMPARISON OF DYNAMIC POSTURAL STABILITY BETWEEN ASYMPTOMATIC CONTROLS AND MALE PATIENTS ONE YEAR AFTER ACL- RECONSTRUCTION (PILOT STUDY)

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OBJECTIVES: The purpose of this study was to determine if dynamic postural stability gained one year after ACL reconstruction in patients who received rehabilitation.

METHODS: Seven male patients (mean age=32,66 ±6,47) who had previously undergone ACL reconstruction (ACL-R) and 7 sex-and general physical activity matched uninjured controls included to study. Mean time since original injury was 13±3,31 months. Dynamic postural control was assessed with 20° knee flexion with Star Excursion Balance test. Each participant performed 3 trials of the anterior, posterior-medial, and posterior-lateral directional components of the SEBT. Reach distances for each directional component were compared with non-injured leg and healthy controls'.

RESULTS: There was no significant difference in all directions of Star Excursion Balance test between neither the operated and uninjured knees of patients nor between patients and healthy controls ($p>0,05$).

CONCLUSION: No deficit in dynamic postural stability are present average one year after ACL reconstruction in patients who received rehabilitation. It can be said that rehabilitation is effective in the recovery of dynamic postural stability.

KEYWORDS: ACL-reconstruction, Dynamic stability, Rehabilitation

P137 DESIGN OF A SINGLE MECHANICAL JOINT FOR MULTITYPE ANGULAR POSITION SENSORS USED IN GAIT ANALYSIS

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OBJECTIVES: Gait and motion analysis are important tools in assesment of athletic performance and clinical evaluation. Wearable sensor based solutins have advantages over video based systems by their prices and ease. Resistive, magnetic or optic Encoders, flexible resistors and accelerometers are common sensr types unsed in gait analysis systems used in rehabilitation. All these sensors have similar mounting and electronic instrumentation aproach but all have seprate mechanical joint desing. The purpose of this study is to develop a single mechanical joint for multitype angular position sensors used in gait analysis.

METHODS: Single turn analog encoder, flexible resistor and 3 axis accelerometer was used as angular position sensor. Constant voltage source (7805) was used for intrumentation of analog encoder and 3 axis accelerometer driver circuit. A voltage diveder was used for flexible resistor driver circuit. Mechanical desing was made to optain small ang light mechanical joint where all sensors can be mounted.

RESULTS: Flexible sensor and encoder was mounded on the center of mechanical joint. Encoder is mounted outside and flexible sensor was mointed in side of the mechanical joint center. Accelerometer was mounted on lower (movable) arm of mechanical joint. Encoder has direct connection with upper and lower arms of mechanical joint. Root of flexible sensor is mounted on one side o the mechanical joint and driven by a mechanical dial on the other arm. Range of motion for analog encoder is 0-360 degree in a single plane, flexible is 0-180 degree for single plane and accelerometer is 0-360 degree for tree planes.

CONCLUSION: Most difficult part of the desing was to obtain highest range for flexible resistor. This sensor have 3 inc lenght and changes its restinte related to its bending angle. Its possible to optain measurement by directly paste it on skin and its also easy to have measurement on mechanical joints in narrow angles. For a conventional mechanical joint the range can not be lower then 180 degrees. The lenght of resistor limits the range. This design problem was solved by adding a secondary mechanical shaft to joint center, winding the sensor over it a mechanical dial. This design can be used in training and reseach purpose where double check is needed. Future studies may focus on adding contless sensors and integrated circuit type angular sensors to mechanical joint.

KEYWORDS: Mechanical joint Angular position sensors Gait anlysis

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P138 A COMPARISON OF PRE AND POST-SEASON PROPRIOCEPTION, FUNCTIONAL ENDURANCE, AND COORDINATION CHANGES OF PROFESSIONAL SOCCER PLAYERS

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OBJECTIVES: Soccer is amongst the most popular sports in the world, and also it is one of the sports in which physical injury occurs most. The aim of the present study was to investigate soccer players' pre- and post-season physical injury-related parameters, to analyze the effectiveness of the training program, and to evaluate changes in their physical performance throughout the season.

METHODS: In the present study, 16 soccer players (mean age: 18.87 ± 0.61 years) and 16 sedentary individuals (mean age: 20.93 ± 4.48 years) were recruited. In both groups, proprioception, functional endurance, and coordination were assessed. Soccer players were assessed twice: pre- and post-season, while the sedentary group was assessed only once.

RESULTS: Pre-season concentric and eccentric coordination levels of the soccer players were found to be higher than those of the sedentary group ($p < 0.05$). In addition, post-season concentric coordination levels of the soccer players were higher than those of the sedentary group ($p < 0.05$). In terms of proprioception levels, no statistical difference was observed between pre- and post-season in the soccer group and between groups ($p > 0.05$). When the pre-season values were compared with the post-season values in the soccer group, while there was a significant decrease in concentric coordination values ($p < 0.05$). There was a significant increase in concentric endurance values ($p < 0.05$).

CONCLUSION: Pre- and post-season detailed evaluations of the soccer players would be beneficial in terms of not only identifying their physical needs and the shortcomings in their physical fitness but also they would be beneficial in designing the training programs.

KEYWORDS: Coordination, endurance, injury, proprioception, soccer

P140 QUADRICEPS MUSCLE MECHANICAL SIMULATOR FOR TRAINING OF VASTUS MEDIALIS OBLIQUUS AND VASTUS LATERALIS OBLIQUUS MECHANICAL PROPERTIES

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OBJECTIVES: In classical anatomy quadriceps muscle have four heads. In clinical studies researches have demonstrated 6 heads of this muscle. These heads were demonstrated separately not only by their functional properties also by innervation and kinesiological properties. In our previous study we have developed and demonstrated electrophysiological properties of vastus medialis obliquus by an electronic patient simulator. The purpose of this study is to develop a mechanical simulator which can be used to demonstrate mechanical properties of 6 heads of quadriceps muscle and screw home mechanism.

METHODS: Quadriceps muscle femoris have 6 heads as rectus femoris, vastus intermedius, vastus medialis obliquus, vastus medialis longus, vastus lateralis obliquus and vastus lateralis longus. The fundamental mechanical properties of each head is separated by insertion and angle of pull. Main design principle was to demonstrate all heads with insertion and angle of pull properties. Second design principle was to demonstrate screw-home mechanism which is result articular surface are difference of medial and lateral of condyles of femur.

RESULTS: Final design of the simulator consist of three planes for demonstration of angle of pull and pulling forces (patellar plane, proximal and distal planes) of each heads. On each plane channels were graved as origo and insertion for demonstration of angle of pull. Distal plane was movable for demonstration of pulling forces in different angles of knee flexion and extension. Also proximal plane was adjustable to demonstrate different sitting and standing positions. Screw home mechanism was demonstrated by specially designed hinge mechanism. Left and right side hinge mechanisms have different radius as femur condyles and this difference can cause rotation in terminal extension as in screw home mechanism.

CONCLUSION: Vastus medialis obliquus, vastus lateralis obliquus and screw-home mechanism have clinical significance. But it could not be succeeded to find any study which deals with training of screw home mechanism and vastus medialis obliquus and vastus lateralis obliquus muscles in the literature. The purpose of this study was to develop a simulator which can demonstrate mechanical properties of vastus medialis obliquus and vastus lateralis muscles and screw home mechanism. As a result a training simulator with stated properties was developed. In this simulator force measurement is archived with analog dynamometers and future studies may focus on improvement of this simulator with digital force measurement.

KEYWORDS: Vastus medialis obliquus vastus lateralis obliquus mechanical simulator screw home

P141 ORIGINAL ALGORITHM OF REHABILITATION PROTOCOL WITH USE OF ULTRASOUND - STUDY BASED ON ACHILLES TENDON RECONSTRUCTION CASES.

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OBJECTIVES: The study was conducted in order to indicate the usefulness of an ultrasound examination in physiotherapy of patients who underwent the Achilles tendon reconstruction. The aim was to eliminate the risk of the procedure's common complication, i.e.: the formation of adhesions between surrounding tissues and the tendon.

METHODS: This study analyses 10 cases of anatomical reconstruction of the Achilles tendon. In all cases the surgeon, the physical therapist and the rehabilitation protocol were the same. The algorithm: 1. The weekly protocol included: • the evaluation of: ROM, gliding, tissues swelling, tendon ripple, bursa and fat body movement, possible gaps, and vascularity; • medical examination including: observation, palpation, and ultrasound examination. 2. Every PT session was precluded by an examination including: observation, palpation, and ultrasound evaluation. 3. The US examination was performed to evaluate the functioning of tissues in regard to the tendon's healing stage. • 2-3 weeks after the surgery: the assessment of gliding during passive plantar flexion, the examination included the use of modified Thompson's test; • after 3 weeks: the assessment of tendon tension and the isometric plantar flexion strength of the medial gastrocnemius muscle; • 3rd and 6th week: the assessment of swelling, vascularity (before and after the PT session including the cooling of the tendon), Kager's triangle fat body assessment, and active gliding evaluation, testing the gastrocnemius muscle strength during active movement, • from 6th week until the end of physiotherapy: the evaluation of tendon gliding and gastrocnemius' strength (body weight bearing); • the final US examination performed by the radiology specialist in the 12th week after the surgery, the assessment of gliding and muscle strength.

RESULTS: During the final medical examination performed by the doctor in 12th week after the surgery, there were no tendon adhesions between the tendon and surrounding tissues that would limit the tendon's gliding within its sheath. The weekly US examination helped while choosing appropriate physical therapy methods that increased the functional recovery of the Achilles tendon.

CONCLUSION: 1. The use of ultrasound device during each PT session enables the therapist to choose appropriate methods in order to optimise the rehabilitation process depending on the current condition of the patient. This approach creates good conditions for the optimal functional recovery. 2. The ultrasound works like a biofeedback.

KEYWORDS: Achilles tendon reconstruction, ultrasound, rehabilitation

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P142 EFFECTS OF DYNAMIC EXTENSION EXERCISE AND MULLIGAN STRETCHING ON HAMSTRING FLEXIBILITY

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OBJECTİVES: By the increase in physically inactive and sedentary lifestyles habits, hamstring tightness has currently become a more common situation. The purpose of this study was to compare the effects of dynamic extension exercise and Mulligan stretching applications on hamstring flexibility in people with hamstring tightness.

METHODS: This study involved 12 young adults and 24 knees (4 females, 8 males) with bilateral hamstring tightness (active knee extension test angle < 25 degrees). Mean age and mean Body Mass Index (BMI) of the participants were 22.75 ± 2.73 years and 21.52 ± 2.51 kg/m², respectively. Before the first measurements, all participants were separated into a Dynamic Extension Exercise Group (DEEG, n = 7) and Mulligan Stretching group (MSG, n = 5) according to the simple random table. DEEG received terminal extension exercises consisting of three sets of 10 repetitions, with 30 seconds of rest between each set, performed at predetermined 10 repetition maximum for each subject. MSG received traction straight leg raise technique and bent-leg-raise technique of Mulligan for 1 set each session applied by the physiotherapist. Applications were done 3 sessions a week for 4 weeks. Hamstring flexibility was measured with Active Knee Extension Test (AKET) and Sit and Reach Test (SRT). All measurements were performed four times: before treatment (BT), immediately after 1st session and 24th hour, and after 4-week treatment period (AT).

RESULTS: There were no significant differences between the two groups in the baseline demographic characteristics, BMI, and AKET and SRT results ($p > 0.05$). While MSG group experienced a significant increase in the AKET and SRT at measurements of 1st session, 24th hour and AT ($p < 0.05$), there were no significant alterations in values of AKET and SRT in DEEG ($p > 0.05$).

CONCLUSION: The results of our study showed that applying Mulligan stretching three sessions per week for 4 weeks can increase active knee extension angle in people with hamstring tightness. Applying Mulligan stretching instead of dynamic extension exercises can be more effective on hamstring flexibility. However, further data and studies are needed to determine long-term outcomes.

KEYWORDS: Exercise, Hamstring tightness, Mulligan Concept

P143 INVESTIGATION OF CERVICAL FLEKSOR AND EXTENSOR MUSCLE ACTIVATION DURING ISOMETRIC NECK EXTENSION APPLIED BY THERRABAND

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OBJECTIVES: Therrabands are commonly used for resistive exercises, streching and stabilization exercises and also isometric exercises. However, principles of practice of therrabands are mostly focused on exercise variety. Likewise it is only given point to exercise variety during therrabands usage at cervical region. Nevertheless, for effective usege of therabands and proper assessment of effectiveness response, it is necessary to know the amount of resistance being given or muscle activation response against to resistance given. The aim of this study was to compare activations of cervical flexor and extensor muscles during isometric extension exercise against to the resistance of therraband in healthy individuals.

METHODS: 15 healthy subjects aged between 19-32 have been included and one of them was out of the study cause inproper data. 8 of them was female and 6 of them was male in the rest 14 people. Subjects with neck problems, systemic diseases, traumas or operation history were excluded. Neck isometric exercises with therraband was 2 sets with 2 minutes' intervals and EMG records have been taken during exercises. After preparation of the skin, surface electrodes placed on the motor points of sternocleidomastoideus(SCM) and erector spina(ES) muscles. After taking the avarage of 3 measures, the first 10 seconds of muscular activations were recorded. The average of integrated EMG(iEMG) values of each records was used for statistical data. Independent T test and Mann Whitney U test were used for the analysis of findings.

RESULTS: There was no significant difference between the right ES and left ES's mean iEMG during isometric neck extension against to therraband ($p=0.06$). Although there was no difference between right SCM and right ES muscles action potentials($t=-0.895$; $p=0.379$), there was a significant difference between left SCM and left ES muscles action potentials ($z= -2.435$; $p=0.01$). Comparing with the all right and left SCM and ES muscle activations, a significant difference was detected in favour of ES muscles ($t= -2.133$; $p= 0.03$).

CONCLUSION: The results shows that the neck extensors may be affected by the arm muscles during isometric exercise with therraband and the arm muscle activation can interfere EMG activity of neck muscles because of holding theraband. Higher SCM muscles' activation in the right side might be related with dominancy. Consequently, this study foreseen the other muscle groups can be affected from self isometric neck exercises with therraband; thus therraband exercises done by a mechanism are more convenient for the neck isometrics.

KEYWORDS: Cervical, exercise, isometric, surface EMG, therraband

P144 THE IMMEDIATE EFFECT OF KINESIOTM TAPING ON DYNAMIC BALANCE AND ACCELERATION OF ATHLETES AND SEDENTARY

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OBJECTIVES: Observing the immediate effect of KinesioTMTaping(KT) to dynamic balance(DB) and acceleration(ACC) of athletes and sedentary.

METHODS: The mean ages of athletes(n=25) and sedentary(n=25) were 21,36±2,07 and 21,64±1,62 years, weight 82,36±1,75 and 79,48±7,41kg, height 1,81±0,65 and 1,77±0,56cm, and body mass index were 24,99±4,07 and 25,20±2,12kg/cm², respectively. They were all male and students of Yeditepe University. The athletes were in the soccer and American football teams of the university. All gave their own written consent to participate in the test protocols of the study voluntarily.Their lower extremity (LE) muscle power (JTech Myometry), and the flexibility of the LE antigravity muscles were assessed before the Their DB (Prokin PK 200) of both sides, speed and acceleration in 30m sprint (Research Tracker RT6) were assessed as before and after the KT applications on both calves to observe their immediate effects on the gastrosoleus group of muscles (p<0.05). The Y shaped KT were used starting from achilles tendon as one piece and ending over medial and lateral heads of M.Gastrocnemius. Descriptive statistics were used to understand the physical features of the participant. Wilcoxon and Mann-Whitney-U tests were used for the significance (p< 0.05) of the data and Pearson Correlation was used to understand the relation between the data.

RESULTS: Athletes' lower extremity muscles were stronger (p< 0.05) than the sedentary, except the M.Gluteus maximus and ankle invertors. They achieved higher performance in 30m sprint and in DB tests than the sedentary. KT on gastrosoleus group improved the DB of both sides as perimeter length(°) of the centre of pressure (COP) and the area covered (%) by COP (p< 0.05) of the athletes, but not in the ML and AP displacements (°) of COP. The athletes forward (X) and resultant (XYZ) ACC and velocity (m/sec) were significantly higher after KT application (p<0.01). The soleus, ankle invertors-evertors were effective on the forward (X) ACC, but invertors were also effective on mean velocity of the athletes, compared to sedentary.

CONCLUSION: The athletes benefited from the immediate effects of KT application during sprinting. It increased the ability of athletes to control the movements of COP in shorter distance and smaller area compared to sedentary. Since there is no difference in AP-ML displacement of COP of both groups, we can conclude that KT is not having immediate effect on ankle strategy for DB.

KEYWORDS: Acceleration, Balance, Kinesiotape

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P145 THE IMMEDIATE EFFECTS OF KINESIO TAPING ON SHOULDER EXTERNAL ROTATION OF PEOPLE WITH SHOULDER PAIN

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OBJECTIVES: Observing the immediate effect of KinesioTMTaping (KT) on shoulder external rotation of people with shoulder pain.

METHODS: The mean ages of participants (n=17;7W&10M) were 47,11± 1,28yrs, weight 72,4±13,10kg, height 1,68±0,069cm, and body mass index were 25,57±3,41kg/cm². All were under physiotherapy with moderate degree of shoulder pain during movement and rest. They gave their own written consent to participate voluntarily to the test protocol. Their sociodemographic features (physical features, habit of physical activity) were taken with a specially prepared questionnaire for this study. Their muscle power (JTech Myometry) and range of motion-ROM of shoulder joints were assessed before the test protocol. The active external-internal rotations were tested as before and after KT while the participants sat on a stable chair, forearm was supported on the table with as much as possible 90° of shoulder abduction within the pain limits. The hand was in supination and the line drawn on the dorsum of the hand and forearm was to nominate the longitudinal axis. The photographs of each participant were taken by iPhone 4 (Apple) in direct line just opposite to the forearm to record the last position of the forearm during shoulder rotations. An eye band and a headphone were used during the test. Through a universal on-screen digitizer (Desktop Ruler™) the goniometric measurements were double checked on the computer. Their pain was assessed through Visual Analogue Scale (VAS) and McGill Pain Questionnaire (MPQ) as before and after KT application. The disability they faced to during their daily life was assessed by Disability of Arm Shoulder and Hand Questionnaire (DASH) as before and after KT application. Y shaped KT was applied to subscapular muscles, the medial arm reaches towards the spine of scapula and the lateral arm was towards the acromion. All data were analysed statistically. The descriptive statistics were used for the physical features of the participants. Wilcoxon Signed Rank test was used for the significance of the data (p<0.05) and Spearman Correlation was used to understand the relation between the data.

RESULTS: KT was found effective on muscle strength; M.Subscapularis, M.Supraspinatus, M.Infraspinatus and M.Teres Minor strength were significantly higher after KT(p<0.05). KT also improved ROM of the shoulder external-internal rotations (p<0,05). The shoulder joint pain was decreased after KT (p<0,05) according to VAS and Pain Rate Index (PRI) of MPQ.

CONCLUSION: The shoulder pain during external-internal rotations decreased due to the immediate effects of KT. A positive correlation was found between the data achieved by the universal goniometer and desktop ruler programme. Therefore we may suggest KT for patients with shoulder pain to improve the amount of rotation.

KEYWORDS: External rotation, Kinesiotape, Shoulder

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POSTERS PAPERS CONT'D

P146 PATIENTS SATISFACTION EVALUATION: DIFFERENT PHYSIOTHERAPY APPROACHES FOR OSTEOARHRITIS OF THE KNEE

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OBJECTIVES: Although many studies were focused on the assessment of patients' satisfaction, few studies have specifically addressed this issue for knee osteoarthritis. Global rating of change (GRC) scales are very commonly used in clinical research, particularly in the musculoskeletal area. The purpose of this study was to evaluation the patients satisfaction of the Mulligan's Mobilization with Movement (MWM) techniques, Passive Mobilization (PM) techniques and physical therapy modalities (PTM) (superficial heat or cold, Transcutaneous Electrical Nerve Stimulation (TENS) and therapeutic ultrasound) in subjects with osteoarthritis of the knee.

METHODS: Thirty subjects with bilateral osteoarthritis of the knee were randomly assigned to the MWM group (n=21) or the PM group (n=21) or PTM group (n=22). The duration of treatment was a maximum of 5 weeks (12 sessions) in all groups. The subjects satisfaction were assessed before and after treatment by the GRC scales. One-way analysis of variance was used to compare the groups. When significance was observed, pairwise post hoc tests were performed using Tukey's test.

RESULTS: Mean age and body mass index (BMI) of our study group were, respectively, 54±7 years and 31±5 kg/m² in the MWM group, 56±6 years and 31±4 kg/m² in the PM group and 57±6 years and 32±5 kg/m² in the PTM group There was no significant differences between groups in respect of age, BMI and GRC before treatment (p>0.05). Patients satisfaction of the three groups after treatment were significantly different (F=6.732 p=0.002). Pairwise comparisons of the treatment groups revealed a significant difference in the patients satisfaction between MWM and PTM (p=0.007), and between PM and PTM (p=0.007); there was no significant difference between MWM and PM (p>0.05).

CONCLUSION: Manual therapy seemed to be superior to physical therapy modalities for the patients satisfaction. Therefore, we suggest that physiotherapist either can apply MWM or PM techniques based on their clinical experience in the management of osteoarthritis of the knee.

KEYWORDS: Knee, manuel therapy, mobilization, osteoarthritis, physical therapy modalities

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P148 IS THERE A RELATION BETWEEN SHOULDER DYSFUNCTION AND CORE INSTABILITY?

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OBJECTIVES: Little is known about the relationship between core stability and shoulder dysfunction in shoulder impingement syndrome. The purpose of this study was to analyze the difference between healthy volunteers and patients with shoulder dysfunction in regard to core stability measures. Secondary purpose was to explore the relationship between measures of core stability and measures of shoulder dysfunction.

METHODS: 15 patients with shoulder impingement syndrome (mean age: 32.2 ± 4.2 years) and 15 healthy volunteer (mean age: 33.8 ± 6.2 years) were participated in this study. Sorenson test, front plank and side bridge exercise was performed to assess anterior, lateral and posterior core endurance, respectively. Simple shoulder test (SSS) and seated medicine ball throw test was used to evaluate the functions of the shoulder joints. Mann-Whitney U test was used for comparison of variables between groups. Analyses of relationships between variables were examined with Spearman correlation test.

RESULTS: There was a statistically significant difference between patients with shoulder impingement syndrome and healthy control in core stability and function ($p < 0.05$). A strong positive correlation was found between shoulder functional test (SSS) and lateral bridge test ($r = .874$, $p < .05$). Additionally, there was a modest positive correlation was found between the SSS and the Sorenson test at ($r = .695$, $p < .05$), and a weak positive correlation was found between the SSS and the front plank test at ($r = .365$, $p < .05$).

CONCLUSION: Core stability and functional deficiency was found in patients with subacromial impingement syndrome. According to this study, greater shoulder dysfunction is correlated with greater stability deficiency. Therapists should consider incorporating core strengthening as an integral component of rehabilitation program in patients with shoulder dysfunction.

KEYWORDS: Core stability, function, shoulder impingement syndrome

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P149 EFFECTS OF SACROILIAC JOINT MOBILIZATION ON HAMSTRING MUSCLE FLEXIBILITY AND QUADRICEPS MUSCLE STRENGTH

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OBJECTIVES: The aim of this study was to determine the effect of sacroiliac joint mobilization (SJM) in cases with sacroiliac joint dysfunction (SJD) on hamstring muscle flexibility and quadriceps muscle strength.

METHODS: Seven subjects age average (min- max) was 21.85 (21-23) years with SJD were included. Hamstring muscle flexibility was measured with passive knee extension (PKE) method by using goniometer; quadriceps muscle strength was measured by using a hand dynamometer. After osteopathic evaluation (sacroiliac joint stress and mobility tests) appropriate mobilization methods (ilium anterior, ilium posterior and sacrum R / R dysfunction mobilization) were performed in patients with sacroiliac joint dysfunction. All measurements was repeated before, immediately and 4 days after application. For statistical analysis, Friedman and Wilcoxon-Signed test was used.

RESULTS: Immediately after SIJ mobilization for 7 patients, hamstring muscle flexibility was evaluated and compared with before, bilateral hamstring muscle flexibility improvement was observed ($p < 0.05$). When 4 days after results compared with before generated effect was continued in the dominant side ($p < 0.05$) and there were no changes observed in the non-dominant side ($p > 0.05$). When immediately after measurements compared with 4 days after results bilateral improvement was continued ($p > 0.05$). When Quadriceps muscle strength compared with before and immediately after application bilateral quadriceps muscle strength was increased ($p < 0.05$). When 4 days after measurements compared with the results of before application the effects was bilateral continued ($p < 0.05$). Compared immediately after application with after 4 days, bilateral improvement was continued ($p > 0.05$).

CONCLUSION: SJD patients known with hamstring muscle flexibility loss and quadriceps muscle weakness, private sacroiliac joint mobilization is effective in enhancing hamstring muscle flexibility and quadriceps muscle strength, so SJD could be consider for increasing quadriceps muscle strength and hamstring muscle flexibility.

KEYWORDS: Flexibility, mobilization, strenght

P150 THE EFFECT OF HAMSTRING MUSCLE TIGHTNESS ON KNEE JOINT PROPRIOCEPTIVE SENSE

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OBJECTIVES: Hamstring muscle tightness is a major musculoskeletal problem that predisposes injuries in knee joint. Proprioception sense is an important factor for injuries and there has not found any study about the effect of hamstring muscle tightness on knee joint proprioceptive senses. Therefore, the aim of our study was to determine the effect of hamstring muscle tightness on knee joint proprioceptive sense.

METHODS: 61 healthy individuals, without any orthopedic or neurological symptom that affect the knee joint proprioception sense, were included in this study. Individuals' socio-demographic data were recorded. Hamstring muscle tightness was measured with active knee extension (ACE) method by using goniometer. Individuals with hamstring muscle tightness (ACE over of 20 °) was Group 1 and individuals without tightness (ACE 20 ° and under) was Group 2. Proprioceptive component of joint position sense and kinaesthesia was evaluated for the sense of proprioception. Prosport 1000 PMS (Tümer Machine Ankara, Turkey) instrument was used and visual, auditory, tactile, sensory input have been eliminated. Passive placement method and 20 and 40 degrees of knee flexion target angles was used for measurement. For joint position sense target angle predict degree, for kinesthesia perceive movement sense degree was recorded. Instrument moved 10 degrees/sec for joint position sense and 0.4 degrees/sec for kinesthesia. All measurements was repeated three times for dominant and non-dominant side. SPSS version 21 was used for statistical analysis and p values of 0.05 and less were considered evidence of statistically significant findings. Mann-Whitney U rank test was used to compare findings of two groups.

RESULTS: Individuals socio-demographic data were similar ($p > 0.05$). There was not found any difference between groups dominant and non-dominant side AKE values ($p > 0.05$). Similarly for dominant and non-dominant side kinaesthesia values in 20 ° and 40°, joint position sense values in 20 ° and 40 ° did not show statistically significant differences between groups ($p > 0.05$).

CONCLUSION: This study showed that hamstring muscle tightness was not effective on knee joint kinesthesia and joint position sense for both dominant and non-dominant side. This result indicate that in order to show the effect of hamstring muscle tightness on knee joint proprioception; joint position and kinesthesia was not effective enough so, other proprioceptive components like muscle strength, range of motion, strength and agility could be considered.

KEYWORDS: Hamstring, kinesthesia, knee, position sense, proprioception, tightness,

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P151 COMPARISON OF KNEE PROPRIOCEPTION BETWEEN BLIND AND HEALTY SPORTSMEN

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OBJECTIVES: Visual sense and proprioception have a big role in motion control. Visual communication ensures the data in proprioceptive period. The other senses of blind people are improved because of the lack of the visual ability but there are not enough data for the proprioceptive quality. The purpose of this study is to compare the knee joint proprioception of the blind and normal sportsmen and figure out the proprioceptive quality.

METHODS: 16 visually-challenged sportsmen (12 males and 4 females) with an average age 23.6 ± 3.1 (ranging from 20 to 30), and 16 healthy sportsmen (12 males and 4 females) with an average age 23.5 ± 3.5 (ranging from 20 to 29) from the same sport branches were included in the study. Knee joint proprioception of the subjects in the target angle was measured. Angle repeating test was used via digital goniometer which was sensitive to 1 degree. For the statistical analyses of the data Mann-Whitney U, Wilcoxon Signed Ranks tests were used.

RESULTS: There were no differences between knee proprioceptions of dominant and non-dominant extremities in both groups. When dominant extremities were compared, blind athletes got less wrong in 15 degrees measurements statistically ($p < 0.05$). All other comparisons revealed no statistically significant difference in both groups.

CONCLUSION: It has been determined that the knee joint proprioception of the visually-challenged sportsmen are better than the normal sportsmen. If the normal sportsmen do the training their eyes closed, the quality of their knee joint proprioception can improve.

KEYWORDS: Proprioception, Blind, Knee, Athletes.

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P153 THE EFFECT OF APPLYING RIGID TAPING TO QUADRICEPS MUSCLES ON KNEE EXTENSION STRENGTH AND JUMPING DISTANCE

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OBJECTIVES: The scientific literature is insufficient to support the use of elastic or rigid taping for the prevention or treatment of musculoskeletal injury or performance enhancement. The aim of this study was to analyze the effects of applying rigid taping on the knee extension strength and lower limb function in healthy subjects.

METHODS: Twenty eight healthy volunteers (age: 20.9 ± 1.1 years) were randomly assigned to two groups of 14 subjects each: Placebo/sham tape and rigid tape (Rigid tape application over the same muscles). All individuals were assessed for single and double leg hops and peak isometric and concentric isokinetic torque before and after interventions.

RESULTS: There is no statistically differences jumping distances, isometric peak torque, isokinetic peak torque and total work done results between groups.

CONCLUSION: Application of rigid tape to quadriceps muscles did not significantly change lower limb functions, jump distance and knee extensor peak torque in healthy sedentary subjects.

KEYWORDS: Rigid taping, isokinetic, isometric, jumping test

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POSTERS PAPERS CONT'D

P155 EFFECT OF KINESIOTAPING AND KNEE BRACE ON FUNCTIONAL PERFORMANCE IN RECREATIONAL ATHLETES

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OBJECTIVES: Kinesiotaping is a popular taping method that is used for both therapeutic and performance enhancement purposes. Knee braces are widely used for prevention in sport injuries but their performance effectiveness is still controversial. The aim of this study was to determine whether kinesiotape or brace was more effective on functional performance.

METHODS: A total twenty male recreational football players (Mean±Standart Deviation (SD) age: 22.5±0.68 years, height: 175.15±3.37 cm, body weight: 74.52±12.41 kg), voluntarily participated in this study. Participants were tested with kinesiotape, with brace and without kinesiotape and brace. Tests were applied one day after patellar kinesiotaping (correction technique). Balance property measured with Modified Y balance Test (dynamic test), agility measured by T test, muscle strength and anaerobic power assessed by vertical jump and triple hop tests. Wilcoxon signed rank test was employed for determining the statistical significance of tests with kinesiotape, with brace and without kinesiotape and brace.

RESULTS: In analysis; There were statistically significant differences found in Triple hop test with kinesiotaping and without kinesiotaping and brace, in T test with bracing and kinesiotaping, in vertical jump with kinesiotaping and without kinesiotaping and brace ($p<0.001$) (in the favour of kinesiotaping in all tests) No statistically significant difference was found in modified Y balance test all groups ($p>0.05$).

CONCLUSION: Consequently, kinesiotaping had positive effects on agility and muscle strength but had no effects on balance in football players. On the other hand brace had no effects on functional performance tests.

KEYWORDS: Brace, Functional Performance Tests, Tape,

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P156 THE EFFECTS OF ANKLE SPRAIN ON BALANCE TESTS IN ADOLESCENT VOLLEYBALL PLAYERS WITH PREVIOUS HISTORY OF ANKLE SPRAIN

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OBJECTIVES: To investigate the impact of having previous history of inversion ankle sprain on balance tests in adolescent volleyball players.

METHODS: Forty-five adolescent volleyball players with mean age of 15.26 ± 1.03 participated in our study. Twenty-nine of them are uninjured (control group) and sixteen had previously experienced inversion injuries on right ankle. 9 players had the injury in longer than one year ago and 7 players had it before six to twelve months. Balancing abilities were evaluated by Star Excursion Balance Test (SEBT) and Single Limb Hurdle Test (SLHT). The fact that players with history of injury had the ankle sprain at right foot led us to perform the measurements in the control group also for the right foot. We compared the results of injured and uninjured players on both tests.

RESULTS: Uninjured players' reaching distance on right foot was found out to be significantly more than in players with ankle sprain at medial and posteromedial directions of SEBT ($p < .05$), whereas there were no differences detected for the other directions ($p > .05$). For comparing athletes' performances with SLHT, finishing time was found significantly better in uninjured players ($p < .05$).

CONCLUSION: Adolescent volleyball players with history of injury show lower performance on balance tests compared to uninjured players. This demonstrates that they should be given a training including balance and stabilization programs.

KEYWORDS: Ankle sprain, balance, coordination, volleyball player, adolescent

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P157 THE COMPARISON OF TRUNK STABILIZATION, FLEXIBILITY, ENDURANCE AND QUALITY OF LIFE BETWEEN DISABLED AND HEALTHY SHOOTER ATHLETES

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OBJECTIVES: Disabled athletes need proper trunk control and balance, enough flexibility and better muscle endurance to carry on activity of daily life and sports activity. In the literature, the studies which compare these parameters in disabled shooters are quite few. The purpose of this study was to compare trunk stabilization, flexibility, endurance and quality of life between disabled and healthy shooter athletes.

METHODS: 15 disabled and 15 healthy athletes (aged between 18-55 years) perform shooting at least one year included in the study. Disabled athletes were unilateral and bilateral poliomyelitis, bilateral congenital hip dislocation, paraplegia. The athletes' demographic characteristic, muscular endurance, flexibility, sitting balance and quality of life were evaluated. Sit-ups and Modified Push-ups Test have been used for evaluation of trunk flexion and extension endurance, Sit and Reach Test has been used for evaluation of flexibility. Upper extremity flexibility has been measured by shoulder internal rotation. Sitting balance has been evaluated by Modified Functional Reach, Bilateral and Lateral Reach Tests. Quality of life has been evaluated by Nottingham Health Profile. Mann-Whitney-U Test was used for the statistical analysis.

RESULTS: Results of Sit-Ups and Modified Push-Ups Tests were lower in disabled group ($z_1 = -3.84$, $z_2 = -3.76$; $p < 0.05$). It has been found that the disabled athletes were more flexible according to Sit and Reach Test ($z = -2.22$; $p < 0.05$). No difference in right and left shoulder internal rotation was found between healthy and disabled group ($z_1 = -0.56$, $z_2 = -0.91$; $p > 0.05$). Differences were found in favour of healthy group at Modified Functional Reach, Bilateral Reach, Right and Left Lateral Reach Tests to evaluate sitting balance (eyes-open and eyes-closed) ($z_1 = -3.38$, $z_2 = -3.86$, $z_3 = -3.42$, $z_4 = -3.51$, $z_5 = -3.40$, $z_6 = -3.55$, $z_7 = -3.13$, $z_8 = -3.65$; $p < 0.05$). Differences were found in favour of healthy group at Nottingham Health Profile total point, energy level, pain and physical activity parameters ($z_1 = -3.17$, $z_2 = -3.09$, $z_3 = -3.48$, $z_4 = -4.63$; $p < 0.05$). Emotional reactions, social isolation and sleep parameters were similar ($z_1 = -0.24$, $z_2 = -0.89$, $z_3 = -0.83$; $p > 0.05$).

CONCLUSION: It has been concluded that disabled shooters have weak trunk flexion and extension endurance level and sitting balance according to healthy athletes; but their flexibility is better. While their energy level, pain and physical activity level related to quality of life were less than healthy athletes, their emotional reactions, social isolation and sleep level were similar. Quality of life as total score was less in disabled shooters. All these results are quite important to determine both sport performance level and planning of rehabilitation program for increasing performance level in disabled shooters.

KEYWORDS: Balance, disabled athlete, flexibility, quality of life, shooter, trunk stabilization

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POSTERS PAPERS CONT'D

P158 QUADRICEPS FEMORIS KASINA UYGULANAN ÜÇ FARKLI GERİMDEKİ KINEZYO BANTLAMANIN ALT EKSTREMİTENİN FONKSİYONEL PERFORMANSI ÜZERİNDEKİ ETKİSİ

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AMAÇ: Kinezyo bantlama uygulama amacına bağlı olarak vücuttaki farklı dokulara farklı gerim yüzdelerinde ve kesim biçimlerinde uygulanabilmektedir. Kas tekniği de kinezyo bantlamanın uygulanma biçimlerinden biridir. Bu teknikte bant kas dokuya, doku en gergin pozisyondayken liflerin seyri ile paralellik gösterecek şekilde uygulanır. Kas tekniğinde kas dokusuna, elde edilmek istenen sonucun fasilitasyon ya da inhibisyon olmasına göre değişen yüzdelerde gerim uygulanır. Amaç kas dokusunun fasilitasyonu olduğunda gerim yüzdesi %25'e kadar ulaşmaktadır. Bu çalışmanın amacı dominant alt ekstremitede "Quadriceps Femoris" kasına uygulanan farklı gerim yüzdelerindeki kinezyo bantlamanın, alt ekstremitenin fonksiyonel performansı üzerindeki etkisini değerlendirmektir.

YÖNTEM: Çalışmaya on iki genç erişkin erkek katıldı. Alt ekstremitte performansını olumsuz etkileyebilecek özelliklere sahip olan bireyler çalışma dışında bırakıldı. Alt ekstremitte eşitsizliği, ileri düzeyde pes planus, alt ekstremitte rotasyonel deformitesi, alt ekstremitelerde yaygın ağrı, alt ekstremitelere ait travma ve/veya cerrahi öyküsü bulunan olguların çalışma dışında bırakılması sonucunda sekiz kişi ile çalışma tamamlandı. Çalışmaya katılan olguların yaş (yıl), boy (cm), kilo (kg) ve vücut kitle indeksi (kg/cm²) ortalamaları sırası ile 20,87±1,45; 178±5,52; 66,87±19,66; 21,11±6,36 idi. Bireylerin dominant taraf "Quadriceps Femoris" kas grubuna üç farklı günde üç farklı gerim yüzdesinde (%10, %25 ve %30) kas dokusunda fasilitasyon sağlamak üzere origodan insertioya doğru kas tekniği kullanılarak kinezyo bantlama uygulandı. Her uygulamanın hemen öncesinde ve on beş dakika sonrasında dominant taraf alt ekstremitenin fonksiyonel performansını değerlendirmek üzere "dikey sıçrama testi" ve "tek ayak üç adım sıçrama testi" uygulandı. Elde edilen sonuçlar SPSS 16 istatistik paketi kullanılarak analiz edildi

BULGULAR: Dikey sıçrama testi için bantlama öncesi ve sonrasında grup içi değişikliklerin anlamlı olmadığı; gruplar arasında ise yalnızca %25 ve %100 gerim uygulanan gruplar arasında fark olduğu; %25'lik gerimin %100'lük gerim ile karşılaştırıldığında performansı olumlu yönde etkilediği görüldü. Tek ayak üç adım sıçrama testinde ise, grup içi değişiklikler incelendiğinde, bantlama öncesi ve sonrasında %10'luk gerim sonucunda performanslarda bir değişikliğin olmadığı; %25 ve %100 gerim uygulanan gruplarda ise performansın bantlama sonrasında arttığı, ancak %25'lik gerimde bu artışın daha fazla olduğu görüldü. Gruplar arasındaki performans değişimleri kıyaslandığında, %10 ve %25'lik gerim uygulanan gruplar ile, %25 ve %100 gerim uygulanan gruplar arasındaki farkların anlamlı olduğu ve performans üzerindeki etkili sonucu yine %25'lik gerim ile uygulanan kas tekniğinin sağladığı görüldü.

SONUÇ: Kinezyo bantlamada kullanılan kas tekniğinde, teknik dahilinde önerilen maksimum gerim yüzdesi %25'tir. Çalışmanın sonucunda daha düşük ya da yüksek gerimlerin performansı artırıcı herhangi bir etki göstermediği görüldü. Kas tekniğinde, ideal olan gerim yüzdesinde uygulamaların yapılmaya devam edilmesi gerektiği sonucuna ulaşıldı.

ANAHTAR KELİMELER: Taping, quadriceps femoris

P159 OMUZ İMPİNGEMENT SEMPTOMU GÖSTEREN HASTALARDA SKAPULOTORASİK KAS AKTİVİTESİNİN KANITA DAYALI OLARAK İNCELENMESİ

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AMAÇ: Omuz kompleksi pasif ve aktif stabilizasyon ile bütünlüğü korunan karmaşık bir yapıdır. Aktif stabilizasyonda rol oynayan kaslar arasında skapulotorasik kaslar önemli bir yere sahiptir. Omuz impingement semptomu gösteren hastalar başta olmak üzere, diğer pek çok omuz kompleksi patolojisinde skapulotorasik kasların aktivite paternlerinin belirlenmesi rehabilitasyon stratejilerinin yapılandırılması açısından oldukça değerlidir. Bu çalışmanın amacı omuz impingement semptomu gösteren hastalarda skapulotorasik kas aktivitesinin kanıtla dayalı olarak incelenmesidir.

YÖNTEM: Bu çalışma kapsamında Pubmed ve Web of Science veritabanlarında 2013 yılının sonuna kadar yayınlanmış olan, omuz impingement semptomu gösteren hastaların skapulotorasik kas aktivitesini elektromyografik olarak değerlendiren yüksek kanıt düzeyine sahip randomize kontrollü çalışmalar incelendi.

BULGULAR: Veritabanlarında tarama kriterlerimizi karşılayan yedi tane çalışma bulundu. Bu çalışmaların altısında "Trapez" kasının üst parçası ele alınmıştı. Çalışmaların yarısında impingement semptomu gösteren bireylerdeki "Trapez" kasi üst parçasının aktivitesinin gerek skapular ve gerekse frontal düzlemlerdeki abduksiyon hareketinde kontrol grubundaki sağlıklı bireylere nazaran artmış olduğu bildirilirken, diğer üç çalışmada gruplar arasında bir fark olmadığı ortaya konulmaktaydı. "Trapez" kasının orta parçasının aktivitesi ise çalışmaların yalnızca iki tanesinde analiz edilmişti. Bunlardan birinde impingement semptomu gösteren bireylerde söz konusu kas aktivitesinin sağlıklı bireylere nazaran daha düşük olduğu belirtilirken, diğer çalışmada böyle bir fark bulunmadığı sonucu belirtilmişti. "Trapez" kasının alt parçası ele alındığında ise, bu yöndeki çalışmaların çoğunda impingement semptomu bulunan bireylerde bu kasın aktivitesinin sağlıklı bireylerden daha düşük olduğu öne sürülmüştü. Buna ek olarak benzer biçimde, "Serratus Anterior" kas aktivitesinin de yine impingement semptomu bulunan olgularda daha düşük düzeyde olduğu belirtilmekteydi. Özetle, çalışma sonuçları genel olarak, impingement semptomu gösteren bireylerde "Trapez" kasının üst parçasının aktivitesinin artmış olup, aynı kasın alt parçasının ve "Serratus Anterior" kasının aktivitelerinin ise azalmış olduğu yönünde sonuçlar rapor etmekteydi.

SONUÇ: "Trapez" kasının orta ve alt parçaları ile "Serratus Anterior" kasının skapular stabilizasyondaki önemi büyüktür. Söz konusu kas gruplarındaki aktivite yetersizlikleri ve beraberinde görülen kas zayıflıkları, omuz impingement sendromu için önemli bir risk faktörüdür. Çalışmamızdan elde edilen sonuçlar bu hipotezi bir kez daha doğrulamış olmakla birlikte, rehabilitasyon protokollerinde bu kas gruplarının aktivite düzeylerinin artırılmasına yönelik yaklaşımlara özellikle yer verilmesi gerekliliğini de gözler önüne sermiştir. "Trapez" kasının üst parçasındaki aktivite artışı da omuz impingement sendromu için diğer risk faktörlerinden biridir. Rehabilitasyon protokollerinde bu kas grubunun aktivite modülasyonunu sağlayacak yaklaşımlara da yer verilmesi gerektiği rehabilitasyonun başarısı için unutulmaması gereken anahtar bir noktadır.

ANAHTAR KELİMELER: Taping, impingement syndrome

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P160 THE ASSOCIATION BETWEEN KNEE PAIN, SYMPTOMS, FUNCTION AND QUALITY OF LIFE AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION AT SHORT-TERM FOLLOW-UP: A PRELIMINARY STUDY

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DOKUZ EYLÜL ÜNİVERSİTESİ TIP FAKÜLTESİ FİZİK TEDAVİ VE REHABİLİTASYON ANABİLİM DALI
DOKUZ EYLÜL ÜNİVERSİTESİ TIP FAKÜLTESİ ORTOPEDİ VE TRAVMATOLOJİ ANABİLİM DALI

OBJECTIVES: To investigate the associations between pain, symptoms, function and knee-related quality of life (QOL) after ACL reconstruction at short-term follow-up.

METHODS: Twenty patients who had undergone ACL reconstruction were included in the study. Knee Injury and Osteoarthritis Outcome Score-Turkish (KOOS-T) was used to evaluate knee pain, other symptoms (symptoms), activities of daily living and sport and recreation (Sport/Rec). Quality of life was assessed with Short Form (SF)-36. Lysholm knee scoring scale was used for clinical evaluation.

RESULTS: The mean age of patients was 28.2 ± 5.5 and the mean time passed after surgery was 38.22 ± 24.7 weeks. A significant correlation ($p < 0,05$) was found between KOOS-T pain, activities of daily living subscales and all SF-36 subscale scores and both physical component and mental component summary scores. KOOS symptoms and Sports/Rec subscales were correlated with physical and social functioning subscale scores and mental component summary scores of SF-36. Symptoms subscale was also correlated with vitality subscale of SF-36. There was no correlation between SF-36 scores and age and time passed after surgery. Lysholm score was also correlated with most of the subscales of SF-36 but especially with physical component summary score.

CONCLUSION: The QOL of patients who had undergone ACL reconstruction was significantly correlated with pain and activities of daily living. The mental health subscales of SF-36 also correlated with pain, symptoms, ADL and Sports/Rec suggesting that apart from the physical impairment, mental health is also an important clinical issue in patients who had undergone ACL reconstruction.

POSTER BİLDİRİLER DEVAMI

POSTERS PAPERS CONT'D

P110 EVRE 3-4 PATELLOFEMORAL KONDROMALAZLİ HASTALARIN PATELLOFEMORAL EKLEM SAGİTAL DİZİLİM ANALİZİ

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AMAÇ: Evre 3-4 patellar kondromalazi olgularında patellofemoral eklemde sagittal plan diziliminin değerlendirilmesi ve patellofemoral eklem yüklenmelerinde meydana gelen değişikliklerin ortaya konması amaçlandı.

YÖNTEM: Evre 3-4 kondromalazisi olan , sagittal plan patellanın yükseklik bozukluğu (patella alta, baja) ve horizontal plan dizilim bozukluğu (patellar tilt, subluksasyon) olmayan 60 hasta ve 60 kontrol hastasının diz eklemine MR görüntüleri değerlendirildi. 120 olgunun (78 kadın – 42 erkek) ortalama yaşı 53.31±8.15 idi. Patella-patellar tendon açısı (P-PT) ve patella alt uç ve tuberositas tibia (DP-TT) arasındaki mesafeler sagittal plan kesitlerinde ölçüldü. Patellanın yükseklik bozukluğu Caton-Deschamps indeksi ile patellar tilt Grelsamer metodu ile değerlendirildi. Evre 3-4 kondromalazi veriliği ile distal patella ile tuberositas tibia arasındaki mesafi (DP-TT) ve Patella Patellar Tendon (P-PT) açısı arasındaki ilişki incelendi. Her iki grupta elde edilen ortalama verilerle birer 3 boyutlu diz modellemesi yapıldı. Yapılan modellemeler üzerinden sonlu elemanlar analizi ile dizde meydana gelen yüklenmeler simüle edildi.

BULGULAR: Çalışmaya dahil edilen kondromalazik olgularda ortalama P-PT açısı anlamlı olarak daha düşük ($p < 0.05$); ortalama DP-TT mesafesi daha büyük ölçüldü ($p = 0.001$). Bu sonuçlar Evre 3-4 patellar kondromalazi grubunda, patellanın sagittal plan rotasyonel dizilim bozukluğu olarak değerlendirildi. Sonlu elemanlar analizi ile yapılan basınç ölçümü sonucunda kondromalazik modelde 3,68 kat daha büyük yüklenme değerleri saptandı.

SONUÇ: Bilgimiz dahilinde bu çalışma patellofemoral eklem kondromalazisi ile sagittal plan rotasyonel dizilim bozukluğu arasında ilişkinin analiz edildiği ilk çalışmadır. Sonuçlarımız klasik radyolojik yöntemlerle herhangi bir dizilim bozukluğu saptanamayan ileri evre kondromalazik olgularında sagittal plan dizilim bozukluğu olduğunu göstermektedir. Kondromalazi patella olgularındaki bu dizilim bozukluğu patellofemoral eklemde artmış yüklenmelere neden olmaktadır. Sagittal plan rotasyonel deformitesinin değerlendirilmesinin gerek ön diz ağrısında gerekse de kondromalazi etyopatogenezinde göz önüne alınması gerektiğini düşünüyoruz.

ANAHTAR KELİMELEER: Kondromalazi, sagittal plan, dizilim, sonlu elemanlar analizi.



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S01 CENTRAL DEFECT TYPE PARTIAL ACL INJURY MODEL ON GOAT KNEES: THE EFFECT OF INFRAPATELLAR FAT-PAD EXCISION

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OBJECTIVES: The aim of this study is to investigate the primary healing capacity of the anterior cruciate ligament (ACL) and the possible effect of fat pad excision on it. For this purpose, a central defect type ACL injury model was performed. Histopathological and biomechanical studies were performed on this model.

METHODS: Total of ten female adolescent Anatolian Black Goats were included in the study. A midsubstance central defect was created successfully with a four mm. arthroscopic punch in the ACLs of right knees of all the subjects through a medial mini-arthrotomy and goats were assigned to groups whether the fat pad was preserved (group I, n=5) or excised completely (group II, n=5). The left knees served as control. The histopathological evaluations of the defect area was performed utilizing Hematoxylen-Eosine, Masson Trichrome, Van Gieson, and elastic Van Gieson staining as well as measurement of type I collagen immunohistochemically in one sample from each group at 10th week postoperatively. The remaining knees were evaluated biomechanically at the 12th week, measuring anterior tibial translation (ATT) of the knee joints at 90 degrees of flexion and tensile properties (Maximum Tensile Load (MTL), Maximum Elongation (ME), Stiffness (S), failure mode (FM)) of the femur-ACL-tibia complex. Statistical analysis was performed utilizing SPSS v18 package program. Mann - Whitney U and Wilcoxon's signed rank test were used for inter and intragroup analysis, respectively. Statistical significance was set at 0.05.

RESULTS: Histopathological analysis revealed that the central defect area was fully filled macroscopically and microscopically. However, mucoid degeneration was observed in group II. Relative collagen type I content increased in group II. There was no significant difference both within and between groups in terms of ATT values ($p=0.715$ and $p=0.149$ respectively). There was no statistical significance between and within groups in terms of MTL and ME; however group II demonstrated greater stiffness than group I ($p=0,043$) Overall (n=16 knees), tibial avulsion was the commonest mode of failure (n=9) in both control and operated knees.

CONCLUSION: These findings revealed that the central defect type partial ACL injury model acted stable on A-P direction and had full healing capacity. The excision of the fat-pad had no additional effect except increased stiffness. Tibial insertion site seemed to be the weakest portion of the femur-ACL-tibia complex in adolescent goat knees.

KEYWORDS: Anterior Cruciate Ligament, Primary Healing, Fat-Pad

SO2 EVALUATION OF SHORT TERM OUTCOMES OF TRANSPORTAL FEMORAL CROSS PIN FIXATION IN ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

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OBJECTIVES: Many fixation techniques are currently in use for femoral side graft fixation at ACL reconstruction surgery. Short term success following ACL reconstruction highly depends on fixation strength of the graft. In this study we report short term results of anterior cruciate ligament reconstruction using double hamstring tendon autograft using double cross pin for femoral tunnel fixation.

METHODS: Between years 2009 and 2013, 51 male adult anterior cruciate ligament injury cases treated surgically, in a single center, with at least one year follow up were investigated. Professional athletes, multi-ligamentous instability cases, cases requiring meniscus repair or further treatment for chondral injuries and cases with concomitant medial and lateral meniscus lesions were not included in study. Femoral tunnel was prepared anatomically through accessory medial portal, opened medially and distally. Reconstruction was performed using double loop hamstring tendon autograft. Femoral side was fixed using double cross pin, whereas tibial side was secured using single biodegradable interference screw and titanium staple. No external immobilization method such as brace was administered. Patients were encouraged to bear weight as tolerated. Standard physiotherapy was instructed to all patients postoperatively. All cases were evaluated clinically at the end of at least one year follow up. Clinical and functional evaluation consisted of pivot shift and Lysholm, International Knee Documentation Committee (IKDC) scores and Tegner activity evaluation systems.

RESULTS: Mean age was 28.4 years (between 18 -39). Reconstruction was performed average 13 weeks (3-21 weeks) following injury. Average duration of surgery was 48 minutes (35-70). No case of graft failure or posterior cortical fracture was encountered. Two cases developed infection, treated successfully with local debridement and antibiotics with retention of the graft. At the end of follow up period none of the cases demonstrated positive pivot shift test. Pre-operative and follow up Lysholm scores were 58.3 ± 6.7 and 87.1 ± 5.3 ($p < 0.001$) respectively. Pre-operative IKDC scores were evaluated as C at 37 cases and D at 14, whereas, follow up IKDC scores were evaluated as A at 42 cases, B at 8 and C at 1 case. Pre-operative and follow up Tegner scores were 3.7 ± 0.6 and 6.7 ± 0.4 ($p < 0.001$) respectively.

CONCLUSION: Although fixation strength of transcondylar graft fixation techniques have been questioned over loop systems with cortical fixation, it was reported that transcondylar fixation causes less tunnel widening at long term. Our study revealed successful short term results, with femoral tunnel preparation using accessory medial portal and double cross pin femoral fixation, allowing early weight bearing and rehabilitation without graft and fixation failure.

KEYWORDS: Cross pin, acl reconstruction, accessory medial portal

S03 INCIDENCE OF MENISCAL TEARS ACCOMPANYING ACL RUPTURES: EARLIER ACL RECONSTRUCTION, LESS MENISCAL TEAR

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OBJECTIVES: Anterior cruciate ligament (ACL) injury is a common disorder in athletes and in most cases, meniscal tears accompany. These meniscal tears can be the result of the initial trauma or the consecutive injuries in the unoperated patients. The aim of the study was to compare the incidence of meniscal tears in the patients operated because of ACL deficiency in the early or late period after the initial trauma. The age of the patient and meniscal tear pattern were the other subjects compared.

METHODS: 243 patients, 218 males and 25 females with a mean age of 27, operated arthroscopically because of ACL deficiency, were divided retrospectively into three groups according to the period between the initial trauma and operation time: 0-1 month (Group 1), 2-6 month (Group 2), 7 month and over (Group 3). The accompanying meniscal tears were treated as bucket handle tears and the others.

RESULTS: The groups included 42, 72 and 129 patients respectively. Among all groups, it was shown that in 125 cases (% 51.4), a meniscal tear accompanied the ACL tear. In Group 1, 18 cases (% 42.8) had meniscal tears while 29 patients (% 37) in Group 2 and 78 patients (% 60.4) in Group 3 had any kind of meniscal tear. Bucket handle tears constituted 38 % of all tears in Group 1, 53 % in Group 2 and 56 % in Group 3. There was a significant statistical difference between the groups among the presence of meniscal tear and the period between the initial trauma and operation time. When the patients accepted the operation in the first six month after the initial trauma, the incidence of the meniscal injury decreased significantly (chi-square test) ($p < 0,01$). There was no statistical difference between three groups among the percentage of bucket handle tears (variance analysis: $p=0,196$). The statistical difference was not important between the groups among the age of the patients in relation with the pattern of the meniscal tears (variance analysis: $p=0,236$).

CONCLUSION: We can say that the incidence of meniscal tears can be decreased if the patients with ACL injury are operated early after the initial trauma. Earlier ACL reconstruction means less meniscal tear.

KEYWORDS: ACL injury, meniscal tear, bucket handle tea

S04 PROFESYONEL SPORCU OLMAYAN TRANS-TIBIAL VE ANATOMİK TEKNİKLE ÖÇB REKONSTRÜKSİYONU YAPILAN HASTALARDA RADYOLOJİK VE KLİNİK DEĞERLENDİRME

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OBJECTIVES: Aim: Two different approaches for drilling the femoral tunnel are commonly used in single-bundle anterior cruciate ligament (ACL) reconstruction: creating the femoral tunnel through the tibial tunnel or drilling the tunnel through a low anteromedial arthroscopy portal. The purpose of this retrospective study was to compare the radiological and clinical outcomes of hamstring ACL reconstruction using the transtibial (tt) versus the anteromedial portal (am) technique for drilling the femoral tunnel by two different surgeons in non-professional athletes.

METHODS: Method: Using the elevator system with hamstring tendons, single-bundle ACL reconstruction was applied to 24 patients with the transtibial technique and to 15 patients with the anatomic technique, due to ACL rupture. Radiological outcomes were evaluated from postoperative 6-9 month direct radiographs and MRI images and clinical outcomes with the modified Cincinnati Knee Score. The angle made by the tunnel with the anatomic axis of the femur (FTA) and the angle made by the tunnel with the anatomic axis of the tibia (TTA) were examined on direct radiographs and the angular difference between the tunnels was evaluated. On MRI, evaluation was made of the anterior length in the sagittal plane of the exit point of the tibial tunnel in the joint (TAS) in ratio to the whole plateau (TSR) and the posterior length in the sagittal plane of the entrance point of the femoral tunnel in the femoral lateral condyle (FPS) in ratio to the anterior posterior diameter of the whole condyle (FCR) and the height of the lateral condyle location in the sagittal plane (FH).

RESULTS: Results: The FH height ratio of the transtibial group was statistically significantly high compared to the anatomic group ($p<0.01$). No statistically significant difference was found between the groups in respect of FPS ($p>0.05$). The mean femoral tunnel angle of the anatomic group was statistically significantly high compared to that of the transtibial group ($p<0.01$). The mean tibial tunnel angle of the transtibial group was statistically significantly high compared to that of the anatomic group ($p<0.01$). The angular difference of the anatomic group was statistically significantly high compared to that of the transtibial group ($p<0.01$). In both the anatomic and transtibial groups, the increase seen in the postoperative clinical scores compared to the preoperative scores was determined to be statistically significant ($p<0.01$). No statistically significant relationship was determined in either the anatomic group or the transtibial group between the postoperative clinical scores and the femoral tunnel angle, the tibial tunnel angle and the angular difference ($p>0.05$).

CONCLUSION: Discussion: When using a transtibial drilling technique, the location of the femoral tunnel is restricted by the angulation of the tibial tunnel in the coronal plane and may lead to a high placement of the femoral tunnel in a non-anatomical position. The use of the anteromedial portal (AMP) for the femoral drilling provides the surgeon with more freedom to anatomically place the tunnel in the natural femoral ACL footprint, thus improving rotational stability. In this early stage study of individuals not participating in professional sports, although a significant difference was seen in favour of the anatomic group, in the radiological measurements between the anatomic and transtibial groups, no significant difference was determined in respect of clinical results. This can be considered to be due to a low requirement for rotational stability in individuals not playing sports.

KEYWORDS: Ön çapraz bağ, klinik, radyoloji

S05 CAN AN ANATOMICAL ACL RECONSTRUCTION BE PERFORMED WITH TWO STANDART PORTALS?

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OBJECTIVES: Recent studies have demonstrated that ACL reconstruction with anatomic tunnel placement would provide superior stability. In order to achieve an anatomic femoral tunnel drilling accessory anteromedial portal (three portal technique) and medial hofa excision is necessary. Femoral tunnel drilling through a far anteromedial portal facilitates anatomic tunnel placement but can also results in shorter femoral tunnel and articular cartilage damage of the medial femoral condyle. Our purpose in this study was to evaluate whether an anatomic single bundle ACL reconstruction can be performed with use of the two standart portals (anteromedial and anterolateral).

METHODS: PATIENTS AND METHODS: Fifty seven patient underwent single bundle ACL reconstruction in our clinic between 2012-2014, with use of either standart portals or three portals tecnique. We have measured the tunnel length and and femoral tunnel angle in coronal plane to assess the reconstruction . Two portals group included thirty -three patients (twenty-nine male ,four female and mean age $27\pm 2,4$) and three portals group included twenty -four patients (twenty-three male , one female and mean age $26\pm 2,9$) All patients were evaluated with computer tomography (CT) sections to determine femoral tunnel length and obliquity. Tunne length was defined as the distance between the intra-articular and extra-articular tunnel apertures in coronal sections. Femoral tunnel angle was measured in the coronal plane on AP radiographs of the knee. For statistical analysis student t test was used for normal categorical data. A p value of <0.05 was considered significant.

RESULTS: Average tunnel length was 44.2 ± 6.8 mm (range:32.6-55.2mm) in two portals group and 32.8 ± 7.9 mm (range:24.8-43.2) in three portal group. The average tunnel length in three portal group was significantly smaller ($p < 0.05$). According to radiographic measurement on the AP view, femoral tunnel angle averaged 48.20 ± 7.10 (range:38.60-56.10) in two portals group and $47.20 \pm 6,30$ (range: 39.40-55.20) in three portals group. This difference was not statistically significant.($p=0.2$)

CONCLUSION: Femoral tunnels drilled with standart two portals tecnique were longer than three portals tecnique. However, femoral tunnel angles was not different in two groups. Tunnel characteristic in terms of anatomic position was obtained with standart two portals tecnique. Consequently femoral tunnels can be placed anatomically drilled with standart portals.

KEYWORDS: Anatomic, acl reconstruction, portals

S06 TEK BANT ÖNÇAPRAZ BAĞ REKONSTRİKSİYONU SONRASI KONTRASTLI MR ÇEKİMLERİ İLE GREFT KANLANMASININ DEĞERLENDİRLMESİ

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AMAÇ: Ülkemizde ve dünyada önçapraz bağ (ÖÇB) rekonstrüksiyonu genç ve aktif hastalara yaygınlıkla yapılmaktadır. Bu ameliyatlardan sonrası transfer yapılan bağın sağlamlığı ile revaskularizasyonun ilişkili olduğunu düşünmekteyiz. Ameliyattan sonrası transfer yapılan bağın kanlanması ile ilgili literatürde detaylı veri ve çalışma bulunmamaktadır.

YÖNTEM: Radyoloji kliniği ile beraber ameliyattan sonrası kanlanmanın değerlendirilmesi için hastalarımıza kontrastlı MR incelemeleri yapılmıştır. Ocak 2011-2013 tarihleri arasında hastanemizde hamstring tendonu ile, artroskopik tek bant (ÖÇB) rekonstrüksiyonu yapılan 12 hasta çalışmaya alındı. Tüm hastalar aynı cerrah tarafından aynı cerrahi teknik kullanılarak ameliyat edilmiştir. Düzenli kontrole gelen 12 hastanın dizine (11 sol, 1 sağ) kontrastlı MR (1.5 tesla, philips Achieva, Netherland) ameliyattan sonrası ortalama 7 ayda (3-11 ay) yapıldı.

BULGULAR: Rutin diz MRG incelemesini takiben kontrast (gadopentetikasit dimeglumin, magnevis) enjeksiyonu sonrası sagittal planda yağ baskılamalı T1 sekansları alındı. Sagittal plandaki T2A görüntülerde tünel çapları ölçüldü, greft bütünlüğü değerlendirildi. Kontrastlı T1A görüntülerde ise femoral-tibial tünel, ÖÇB grefti, anterior ve posterior perikrusiate planlardaki kontrastlanma miktarı iki radyolog tarafından fikir birliğine varılarak değerlendirildi. 2 greftin normal (10.ay sonrası çekilen) olup 10 greftte (10 ay öncesi çekilen) ödeme bağlı sinyal artışı mevcuttu. 11 greftte değişik derecelerde kontrast tutulumu izlenirken sadece bir greftte kontrast tutulumu saptanmadı. Tüm greftlerin posteriorundaki perikrusiate alanda kontrastlanma izlenirken, 11 hastanın ise anteriorunda perikrusiate alanda kontrastlanma izlendi. 1 hastanın ise hem femoral hem de tibial tünelinde kontrastlanma saptanmamıştır. Tibial tünel çapları ön-arka planda ortalama 12,6mm, femoral tünel ön-arka planda 12,5mm ölçüldü. Greft kanlanmaları değerlendirmesi üç safhada tendon proksimal, distal, interkruciate, kontrast perikrusiate, kontrast femoral tünel, kontrast tibial tünel de üç safhada 1'den 3'e kadar değerlendirildi. Bir kontrastlanma değerlendirme tablosu yapıldı.

SONUÇ: Biz sadece greftte değil, greft ile birlikte çevresindeki kontrast tutulumunun greftin revaskularizasyon prosesinin göstergesi olduğunu düşünmekteyiz. Elde ettiğimiz verilerde tam kontrastlanmanın 10. ay sonrası olduğu, daha erken dönemlerde daha düşük evre kontrastlanma ölçülmüştür. Gelecekte daha çok çekim yapılarak bu kontrastlanma evrelenmelidir. Böylece greftin kanlanması hakkında daha erken bilgi edinilebileceğini düşünmekteyiz. Kanlanma evresinin de greftin, normal ÖÇB benzetmesini sağlayan önemli bir göstergesi olduğu kanaatindeyiz. Çalışmamızda kanlanmanın değerlendirilmesi için bir model oluşturduk. Bu radyolojik evreleme çalışmaları ve ameliyattan sonrası klinik testlerle birlikte değerlendirildiğinde aktif sporcularda spora dönüş zamanı için detaylı verilere ulaşılacak, doğru kararlar alınacaktır.

ANAHTAR KELİMELER: Kanlanma, kontrast, MR, önçaprazbağ,

S07 THE EFFECT OF AUTOLOGOUS PLATELET RICH PLASMA IN THE TREATMENT OF ACHILLES TENDON RUPTURES: AN EXPERIMENTAL STUDY ON RABBITS

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OBJECTIVES: The aim of this study was to determine the effect of autologous platelet rich plasma (PRP) in the treatment of Achilles tendon ruptures in rabbits.

METHODS: The study included 14 New Zealand albino rabbits that were divided randomly into 2 groups, A and B, each containing seven rabbits. On day zero, all 28 Achilles tendons were tenotomized and repaired. In group A, the tendons were injected with PRP post surgery whereas those in group B were left untreated. On day 28, the right tendons in both groups were examined histopathologically via both light and electron microscopy, and the left tendons were subjected to biomechanical testing.

RESULTS: The histological and biomechanical findings in group A were better than those in group B, but the difference was not significant.

CONCLUSION: PRP had no effect on the healing process 28 days post Achilles tendon rupture.

KEYWORDS: Achilles tendon, platelet rich plasma, tendon healing

S08 POSS-NANOCOMPOSITE MATERIAL: A TISSUE ENGINEERING SOLUTION FOR TENDON INJURIES

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OBJECTIVES: Tendon injuries are among the most significant medical problems. Current treatment of tendon injuries involves the use of autografts, allografts or synthetic grafts which is associated with donor site morbidity, transmission of infectious diseases, life-long steroid therapy and ethical issues. Reconstruction of tendons via tissue engineering is a novel approach that may overcome problems with current treatments. Polyhedral Oligomeric Silsesquioxane-Poly(carbonate-urea)urethane (POSS-PCU) is a nanocomposite material that has already been used for many human applications, including the world's first synthetic trachea, bypass graft, tear duct and others. The aim of this work was to use POSS-PCU as a scaffold for tendon regeneration.

METHODS: Native human tendons were assessed for mechanical and biological properties. POSS-PCU material with viscoelastic properties similar to that of human tendons was fabricated. To enhance the integration of POSS-PCU scaffolds into the bone, adipose stem cells were extracted from fat and incorporated into the scaffolds and assessed for cell viability and integration in vitro and in vivo.

RESULTS: Mechanical properties of POSS-PCU scaffolds were comparable to that of native human tendons. Good fatigue resistance and elasticity was also demonstrated. Scanning electron microscopy images revealed attachment of cells throughout the scaffolds. Steady increase in cell proliferation was confirmed by one-way ANOVA ($p=0.001$). Histology results showed spindle-shaped differentiation of adipose derived stem cells resembling morphological appearance of native tendon cells. The results of in vivo work were promising and will be present in details.

CONCLUSION: Tendon scaffold made of POSS-PCU nanocomposite material with adipose stem cells is a suitable approach to support the healing of injured tendons for long term.

KEYWORDS: Nanocomposite, polymer, regenerative medicine, stem cells, tendon, tissue engineering

S09 THE COMPARİSON OF RESULTS OF EARLY AND LATE REHABILİTATION FOLLOVING ARTHROSCOPIC BANKART REPAIR WITH KNOTLESS ANCHOR IN RECURRENT TRAUMATIC ANTERIOR SHOULDER DİSLOCATİON

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OBJECTIVES: The aim of this study was to compare the clinical and functional results of early and late rehabilitation of patients who had undergone arthroscopic Bankart repair with knotless anchor for recurrent shoulder dislocation and to define the most appropriate rehabilitation time and the effect of this on recurrence.

METHODS: 34 patients (32 male and 2 female) were included in this study. The patients were diagnosed with recurrent anterior shoulder dislocation with Bankart lesion in our institution. The exclusion criteria in this study were multi-directional shoulder instability, wide osseous Bankart lesion, wide Hill-Sachs lesion or rotator cuff tear. All patients underwent arthroscopic Bankart repair. Knotless anchor was used in all patients. The patients were grouped into 2 groups postoperatively according to the immobilization period and rehabilitation regimen. Both groups equally consisted of 17 patients. (Group 1; early rehabilitation group, Group 2; late rehabilitation group) All patients were examined retrospectively. Gender, age, dislocated side, dominant hand, recurrence, presence of additional pathologies, time of first and last dislocations preoperatively and numbers of dislocations were the demographic data recorded. At the final follow-up; the restriction in external rotation was measured by comparative goniometry and clinical evaluation was made using the Constant and Rowe scores. One-sample T-test, Mann-Whitney U Test, Crosstabs Chi Square Test and Shapiro-Wilk Tests used for statistical analysis.

RESULTS: The mean age of the patients in Group 1 was found to be 25.1 ± 6.5 years (17 - 43 yrs.) and in Group 2, 30.8 ± 6.8 years (21 - 46 yrs.). After a mean follow-up period of 14.7 months, no patients in Group 1 experienced a recurrence, whereas in Group 2 over the mean follow-up period of 38.5 months, there was dislocation following periods of subluxation in only 1 patient (5.8%). When the parameters of first dislocation, last dislocation and number of dislocations were evaluated separately in the two groups, no statistical difference was observed between the groups in the relevant parameters (n.s.). A statistically significant difference was determined between the groups in respect of the restriction in external rotation ($p < 0.05$). There was no statistically significant difference between the groups in respect of the Constant and Rowe scores (n.s.).

CONCLUSION: The most important result of this study was that the early beginning of rehabilitation yielded less external rotation restriction than late beginning of rehabilitation. The absence of recurrence in the group of early beginning of rehabilitation reminds the question "does early rehabilitation reduce recurrence rates?" The findings in this study should be confirmed with further prospective, randomized and longer follow-up studies.

KEYWORDS: Arthroscopic Bankart repair, Bankart lesion, knotless anchor, recurrence, traumatic anterior shoulder dislocation, shoulder rehabilitation.

PREFERRED METHOD OF PRESENTATION: Sözlü Sunum

S10 ARTROSKOPİK LATARJET: ÖĞRENME EĞRİSİ VE ERKEN DÖNEM SONUÇLARI

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AMAÇ: Korakoid kemik blok ameliyatları özellikle kronik, çok fazla çıkık geçirmiş, glenoid veya humeral kemik defektleri olan, yumuşak doku cerrahisi sonrası nüks etmiş ve genç temas sporcusu hastalarda oldukça güvenli bir girişimdir. Bu tip hastalarda artroskopik Bankart cerrahisi yüksek oranda başarısız olmaktadır. Bristow veya Latarjet tekniği ile uygulanan açık kemik blok ameliyatlarında oldukça başarılı sonuçlar elde edilmiş olsa da, son zamanlarda, minimal invazif, artroskopik ve inovatif bir teknik olan artroskopik Latarjet ameliyatı, öğrenme eğrisi uzun olan ancak açık Latarjet'in tatminkar sonuçlarını hedefleyen alternatif bir yöntem olarak geliştirilmiştir. Anterior omuz instabilitesine eşlik eden glenohumeral kemik defektli olgularda, artroskopik korakoid kemik blok ameliyatı olan artroskopik Latarjet prosedürünün öğrenme eğrisi eşliğinde erken dönem klinik ve fonksiyonel sonuçlarının analizi.

YÖNTEM: Tekrarlayan omuz çıkığı tanısı ile artroskopik Latarjet ameliyatı uygulanan ve ortalama takip süreleri 10,8 (6-18) ay, ortalama yaşları 26,2 (17-38) yıl olan 18 hastanın (4 kadın, 14 erkek) fonksiyonel ve radyolojik sonuçları değerlendirildi. Ameliyat öncesi ortalama 11,5 (5-20) çıkık geçirmiş olan hastaların etyolojisinde epilepsi(4), hiperlaksite(5), travmatik nedenler(5) ve artroskopik Bankart ameliyatı sonrası nüks(4) vardı. Hastaların ameliyat öncesi değerlendirmesinde ISIS skorlaması ve kemik defektleri için 3 planlı ve 3 boyutlu bilgisayarlı tomografi kullanıldı. Öğrenme eğrisi, klinik ve fonksiyonel sonuçlar ameliyat öncesi ve sonrası Rowe skorları, hareket açıklıkları, komplikasyonlar ve ameliyat sürelerinin karşılaştırılmasıyla değerlendirildi.

BULGULAR: On bir hastada mükemmel, 5 hastada iyi ve 2 hastada orta sonuçlar elde edildi. Ortalama Rowe skorları ameliyat öncesi 54,5'dan ameliyat sonrası 88,8'e anlamlı olarak artış gösterdi. Majör komplikasyon olarak (1/18) bir hastada osteotomi sırasında korakoid kırığı gelişti ve açık tespite dönüldü, minör komplikasyon olarak (2/18) bir hastada muskulokütan sinirin geçici nöropraksisi ve bir hastada da antibiyoterapi ile gerileyen yüzeysel yara yeri enfeksiyonu gözlemlendi. Postoperatif dış rotasyon kısıtlılığına bakıldığında karşı tarafa göre ortalama 14.8°'lik bir eksiklik gözlemlendi. Ortalama ameliyat süresi 136.2 dakika olup takip süreleri ile korele edilip öğrenme eğrisi değerlendirildiğinde anlamlı bir azalma saptandı.

SONUÇ: Anterior omuz instabilitesine eşlik eden glenohumeral kemik defektli olgularda artroskopik Latarjet prosedürü uzun bir öğrenme eğrisi ve ileri düzeyde artroskopik hakimiyet gerektiren, standart tekrarlanabilen, kompleks bir cerrahi tedavi metodudur. Klinik sonuçlar değerlendirildiğinde açık cerrahiye yakın umut verici sonuçlar alınabilmektedir.

S11 AKUT AKROMİYOKLAVİKULER EKLEM DİSLOKASYONUNDA ARTROSKOPİK TEDAVİ SONUÇLARI

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AMAÇ: Literatürde akromiyoklavikuler(AK) eklem yaralanmalarının tedavisi halen tartışmalı bir konudur. Cerrahi tedavi genellikle Tip 3 ve sonrasındakiler için uygulanmaktadır. Açık veya artroskopik olarak birçok teknik ve implant kullanılmaktadır. Bunların birbirlerine üstünlükleri klinik ve biyomekanik olarak halen daha tartışmalı konular arasındadır. Akut AK eklem çıkığı tedavisinde tam artroskopik dikiş-düğme (suture-button) fiksasyonunun klinik ve radyolojik sonuçlarını incelemek

YÖNTEM: Ortalama yaşları 29,3 (22-40) yıl olan bir tanesi kadın toplam 15 hasta, ortalama 14,9 (8-22) ay takip süresi ile incelemeye alındı. Travma mekanizmaları motosiklet ve araç içi trafik kazası, spor travması ve basit düşmeydi. Sekiz hastada tip 3, 2 hastada tip 4 ve diğer beşinde ise tip 5 AK eklem yaralanması vardı. Yaralanma sonrası ortalama 6,4 (2-20) günde cerrahi tedavi gerçekleştirildi. Artroskopik fiksasyon, çalışma öncesinde pilot kadavra çalışmasıyla geliştirilen dikiş-düğme tekniği kullanılarak uygulandı. Dört adet portal kullanılarak, özel bir kılavuz sistemi yardımı olmaksızın skopi kontrolünde redüksiyon ve tespit gerçekleştirildi. Ameliyat sonrası 2 hafta omuz kol askısında tutulduktan sonra pasif egzersizlere başlandı. Postoperatif dönemde fonksiyonel değerlendirme için Constant skorlamasına bakıldı, radyolojik redüksiyon değerlendirme için ise karşı tarafla karşılaştırmalı olarak koraklavikular mesafeler ölçüldü.

BULGULAR: Bir hastada klavikula üzerindeki insizyonda hipertrofik skar, bir hastada yüzeysel yara enfeksiyonu ve bir hastada peroperatif korakoid kırığı görüldü. Korakoid kırığı gelişen hastada Bosworth vidası ve sütür ankor ile tespiti yapıldı. Tedavi sonrası ortalama Constant skorları 91.5 olup, sağlam tarafla karşılaştırıldığında ağrı, günlük yaşam aktivitesi, hareket açıklığı ve güç parametreleri açısından anlamlı bir fark görülmedi. Redüksiyon kaybı değerlendirildiğinde, koraklavikular mesafenin sağlam taraftan ortalama 2,8 (0-10) mm daha fazla olduğu ancak bu minimal redüksiyon kayıplarının fonksiyonel sonuçları etkilemediği ve kozmetik sorun yaratmadığı görüldü.

SONUÇ: Literatürde halen altın standart bir cerrahi tedavi yöntemi olmayan akut AK eklem çıkıklarında, uygulanan artroskopik tekniğin hızlı rehabilitasyon ve kozmetik kazanımlarıyla tatminar klinik ve radyolojik sonuçlar verdiği kanısındayız. Yüksek hasta sayılarıyla yapılacak karşılaştırmalı kontrollü prospektif çalışmalarla sonuçların daha iyi analiz edileceği bir gerçektir.

S12 KRONİK LATERAL EPİKONDİLİT TEDAVİSİNDE OTOLOG CONDITIONED SERUM-ACS (ORTHOKİNE) UYGULAMASININ ERKEN DÖNEM SONUÇLARI

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AMAÇ: Lateral epikondilit en sık tanı konulan dirsek yan ağrısı nedenidir ve 3 aydan uzun süren semptom varlığında kronik olarak tanımlanır. Otolog Conditioned Serum(OCS) antiinflatuar stokinlerin özellikle interlökin 1(İL1RA) insülin like growth faktör(İLGF), plateled derived growth faktör(PDGF), transforming growth faktör B1(TGFB1) yoğunlaştırılması ile elde edilir. Çalışmamızda kronik lateral epikondilit(KLE) tanısı almış hastalara OCS enjeksiyonunun erken dönemde ağrı ve dirsek fonksiyonu üzerine etkisi değerlendirilmiştir.

YÖNTEM: Prospektif olarak planladığımız çalışmamızda Nisan 2013-Kasım 2013 arasında KLE tanısı alan antiinflatuar tedavi breys kullanımı, steroid enjeksiyonu, ESWL' den oluşan konservatif tedaviye cevap vermeyen ve 6 ay konservatif tedavi yapılan 24 hasta çalışmaya dahil edildi. Hastalara haftada 2 uygulama yapılmak üzere toplam 4 enjeksiyon uygulandı.Enjeksiyonlar steril şartlarda lokal müdahale odasında uydulandı. Bu işlem hastalara ek tedavi olarak NSAİ tedavi verilmedi. Klinik değerlendirme 1. ay ve 3. ayda Visuel Analog Skoru(VAS), Mayo Dirsek Skoru ile yapıldı.

BULGULAR: Hastaların 13'ü kadın, 11'i erkek idi. Ortalama yaş 38(31-56), hastaların işlem öncesi VAS skoru 7.1(7-10), Mayo Dirsek Skoru 52(48-56) tespit edildi. 1. ayda kontrolde yapılan VAS 3.5(3-4.5) Mayo Dirsek Skoru 80.1 ve 3 ayda yapılan değerlendirmede VAS 1.7(1-4) Mayo Dirsek Skoru 90.1 olarak tespit edildi. İşlem sırasında 1 hastada yüzeysel enfeksiyon tespit edildi ve oral antibiotik ile hasta tedavi edildi. 2 hastada lokal ağrı ve ödem gelişti buz tatbiki ve NSAİ ile tedavi edildi. Son kontrolde hastalardan kendilerine uygulanan tedaviyi değerlendirmeleri istendiğinde 12 vaka çok iyi, 11 vaka iyi, 1 vaka kötü olarak değerlendirdi.

SONUÇ: KLE tedavisinde özellikle konservatif tedavi modalitelerine cevap vermeyen olgularda OCS uygulamasının erken dönemde hastaların ağrılarını azalttığını ve fonksiyonlarını düzelttiği sonucuna varılmıştır. OCS antiinflatuar stokinleri ve growth faktörleri artırarak mevcut inflamasyonu minimum düzeye getirmekte ve bu mekanizma ile iyileşme sağlamaktadır. Bu konuda karşılaştırmalı ve daha geniş, uzun dönem çalışmalara ihtiyaç vardır.

ANAHTAR KELİMELER: Lateral epikondilit, otolog conditioned serum, OCS, Orthokine

S13 DYNAMIC SCAPHOLUNATE INSTABILITY STABILIZATION WITH BONE GRAFT - ARTHROSCOPIC TECHNIQUE

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OBJECTIVES: Chronic dynamic scapholunate (SL) instability causes clinical problems in common activities. Extensive, open procedures like SL ligament reconstruction (Brunnelli technique, capsulodesis etc.) quite significantly limit the movement of the wrist, and their long-term results are suboptimal. The goal of the minimal invasive techniques is to stabilize (provide sufficiently firm stabilization) the joint between the scaphoid and lunate; and minimize reduction of the range of movement of the wrist.

METHODS: We reviewed 25 patients (average age was 32 years) with chronic dynamic scapholunate instability (Geissler classification gr. II and III.) with persistent posttraumatic pain and weakness to the wrist were indicated for the stabilization of the SL joint with arthroscopic technique. Authors developed the methodology of arthroscopic stabilization of SL joint with bone graft, which is inserted into the resected bone of SL joint by a bone cutter to the level of the cancellous bone. The stabilization of the joint is ensured by three K-wires for 6 weeks followed by a gradual rehabilitation. Range of motion, grip strength, radiographic measurements and Mayo wrist score were used to evaluate the results.

RESULTS: The average follow-up period was 16 months (range of 12-26 months). One patient underwent repeated surgery after 6 months where re-stabilization was performed using the same technique. Out of 24 remaining patients there were 10 excellent, 13 good, and 1 fair result based on the Mayo wrist score.

CONCLUSION: Arthroscopic stabilization of the SL joint with the bone graft gives the possibility of a sufficiently firm connection between the scaphoid and lunate which can even ensure power sports load without significant restriction of movement. The results of this technique are better than plain arthroscopic debridement and close pinning. Work supported by a grant NT14587-3/2013.

KEYWORDS: Scapholunate instability, dynamic, stabilization, arthroscopy

S14 COMPARISON OF MESENCHYMAL STEM CELL VERSUS BONE MARROW TREATMENT TO ENHANCE TENDON TO BONE HEALING IN AN ANIMAL MODEL

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OBJECTIVES: Although anterior cruciate ligament reconstruction is one of the most common procedures in the field of sports medicine, less than 50% can return to previous activity level partially due to poor biological incorporation of tendon to bone. The aim of the study is to investigate the biological and mechanical effects of Mesenchymal Stem Cell (MSC) and Bone Marrow (BM) treatment for early tendon graft healing in a bone tunnel.

METHODS: 60 Wistar Albino rats were enrolled in the study and divided in 3 groups equal in number. In all animals a bilateral 1.2 mm bone tunnel was created in proximal tibia. 15 mm Digital Flexor tendons were harvested from each lower extremity and passed from each tunnel. Medial ends of the graft was secured to bone using a custom made endobutton while lateral portion was sutured to periosteum. 100µl whole Bone marrow was aspirated from group 1 animals and injected into the tunnel after tendon transfer while 106 MSCs in 50µl HBSS was injected in the tunnel in group 2. Group 3 was taken as control. Tendon to bone healing was evaluated via immunohistochemistry and mechanical testing at 2 and 6 weeks.

RESULTS: At 2 weeks the tendon to bone interface tissue was found to be stronger in the BM treatment group whereas there was no difference in stiffness between group 1 and 2. Interface tissue width was found to be significantly decreased in the BM group compared to control and MSC treatment groups ($p=0.0012$, $p=0.0001$). At 2 weeks the number of M1 macrophages at the interface tissue was found to be significantly low in the BM group while M2 macrophages were highest in the MSC group. Cellularity was observed significantly high in the MSC group while tissue density was lowest in the BM group due to accelerated graft degradation at 2 weeks.

CONCLUSION: Although both Bone Marrow and Mesenchymal Stem Cell treatments enhance tendon to bone healing by accelerating the remodeling process, Bone Marrow treatment reveals a more anti-inflammatory healing with improved mechanical properties.

KEYWORDS: Tendon to bone healing, Mesenchymal stem cell, Bone marrow, ACL reconstruction

S15 ACHILLES TENDON OPEN REPAIR AUGMENTED WITH VOLAR TURNDOWN TENDON FLAP AND DEEP POSTERIOR CRURAL FASCIOTOMY

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OBJECTIVES: The aim of the study was to investigate the outcomes after open repair of Achilles tendon rupture with augmented volar turndown gastrocnemius flap and deep posterior crural fasciotomy.

METHODS: Twenty-three(22male/1female)patients with acute Achilles tendon injury were operated. Open end to end repair and augmentation with a volar turndown gastrocnemius flap and fasciotomy of the deep posterior compartment was performed in each patient. Home physiotherapy program was instructed in each patient. Muscle strength, balance and jump performance were assessed.

RESULTS: All patients returned to their preinjury activity level and repairs healed without any major complication. One patient has serous drainage who did not require surgical intervention.(4,3%) There was no significant difference between involved and uninvolved leg in terms of concentric and eccentric muscle strength ($p=0.82$ and $p=0.53$, respectively). In Y balance test, there was no significant difference between involved and uninvolved legs in anterior ($p=0.06$), posteromedial ($p=0.97$) and posterolateral ($p=1.00$). In addition, there were no significant differences between leg in vertical jump ($p=0.16$) and one leg hop ($p=0.15$) tests. AOFAS Hindfoot score was 98.6 ± 2.3 (93-100).

CONCLUSION: Open end to end repair of the Achilles tendon rupture with augmentation and fasciotomy of the deep posterior compartment healed without any major complication. Fasciotomy of the deep posterior compartment decreased the tension at the skin repair site while decompressing the superficial compartment anteriorly. Additionally, the augmented bulky repair construct of the Achilles tendon cambered volarly through the deep posterior compartment and decreased irritation sense during and after tendon healing.

KEYWORDS: Achilles tendon, augment, fasciotomy, open repair.

S16 THE EFFECTS OF ADDITIONAL MECHANICAL EXTERNAL COMPRESSION ON HEMARTHROSIS AFTER ARTHROSCOPIC EXTERNAL CAPSULAR RELEASE

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OBJECTIVES: Arthroscopic external capsular release has been frequently used especially in the treatment of symptomatic lateral patellar hyperpression syndrome. Hemarthrosis was reported among one of the most important complications of this procedure. The aim of this study was to demonstrate the effects of the postoperative application of mechanical external compression -in patients who undergone arthroscopic lateral capsular release- on the rates of postoperative bleeding and on pain scores.

METHODS: In this study, different clinical evaluations of 39 patients, who were diagnosed both clinically and radiologically as lateral patellar hyperpression syndrome and who were treated with arthroscopic external capsular release by radiofrequency probe, were compared retrospectively. The patients were evaluated in two groups: Group I (external capsular release, N:19) and Group II (external capsular release + mechanical external compression, N:20). The mean age of the patients was 38.5 +/- 7.3 and 42.3 +/-7.8, in group I and group II, respectively. The female / male ratio and right / left ratio was 17/2 and 16/4, and 9/10 and 9/11 in group I and group II, respectively. Postoperative drainage, cold compression, postoperative 24 hours of bed rest was applied to all patients. In addition, knee range of motion together with quadriceps strengthening exercises was started after postoperative 24 hours in both groups. In group II, mechanical external lateral compression with a sterile roll bandage was applied just lateral to the patella and it was ended after one week. The clinical evaluations of the patients were performed firstly with VAS scoring preoperatively, at 1st month and at 6th month postoperatively and secondly with measurements of intraarticular bleeding amounts within the postoperative drains. For the biostatistical evaluations of the data, variance analysis and independent t-test were used.

RESULTS: The amounts of bleeding through the drains were 94.2 ml +/- 29.9 and 43.0 ml +/- 16.3 in group I and II, respectively ($p<0.05$). The VAS scores were found to decrease significantly at both early postoperative and late postoperative periods compared with preoperative period, in both groups ($p<0.05$). Although the decrease in VAS scores of early postoperative period was found to be more in group II than in group I, this decrease was not significant.

CONCLUSION: One of the most frequent complications after arthroscopic external capsular release has been reported to be hemarthrosis, which is related with worse clinical outcomes after this surgical procedure. The most important results of this study revealed that the addition of immediate postoperative mechanical external compression application lateral to patella decreased postoperative amounts of bleeding and subsequent hemarthrosis, without adding a significant clinical effect on VAS scores. In addition to the results of this study, prospective randomized studies are required further.

KEYWORDS: Lateral patellar hyperpression syndrome, arthroscopic release, hemarthrosis

S17 RADYOAKTİF SİNOVEKTOMİ SONRASI HASTA MEMNUNİYETİ

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AMAÇ: Radyoaktif sinovektomi (RAS) sinovit tedavisinde cerrahi tedaviyle birlikte ya da tek başına uygulanan bir yöntemdir. Bu çalışmada, RAS uygulanmış hemofili dışı sinovit hastalarında memnuniyet düzeyinin ve hasta memnuniyetini etkileyen faktörlerin değerlendirilmesi amaçlanmıştır.

YÖNTEM: 2002 ve 2013 yılları arasında RAS uygulanmış olan 31 adet hemofili dışı sinovit hastasından ulaşılabilen ve telefon anketine katılmayı kabul eden 21 hasta çalışmaya dahil edildi. RAS uygulanan eklemler, temel yakınma, RAS öncesi ameliyat öyküsü, varsa patolojik tanı, eklem başına yapılan enjeksiyon sayısı, her enjeksiyon için hastanın yararlanım algısı, şişlikte gerileme ya da tekrarlama sorgulandı. Hastalara RAS uygulanan eklemleriyle ilgili yakınmaları ve girişimden memnun kalıp kalmadıkları soruldu. Ağrı ve işlevselliğin 100 puan üzerinden ayrı ayrı değerlendirildiği Worland tarafından geliştirilmiş olan telefonla diz değerlendirme formu dolduruldu. İstatistiksel analiz SPSS v16 paket programıyla yapıldı. Anlamlılık düzeyi 0.05 olarak belirlendi.

BULGULAR: Yirmi beş tanesi diz, ikisi dirsek, üçü ayak bileği olmak üzere 30 eklem değerlendirildi. Temel yakınma eklemlerin 23 tanesinde (%76.7) şişlikti. Yirmi üç eklem RAS öncesinde artroskopik ya da açık sinovektomi uygulanmıştı. Eklemlerin 24'ünde patolojik tanıya ulaşılabildi; tanı beş hastada pigmente villonodüler sinovit, 19'unda kronik sinovitti. Hastaların 16'sında (%53.3) romatizmal hastalık öyküsü vardı. Eklem başına yapılan enjeksiyon sayısı 21 eklemde (%70) bir, yedisinde (23.3%) iki ve ikisinde (%6.7) üçtü. Birinci enjeksiyon 14 eklemde (%46.7) yararlı, dört eklemde (%13.3) kısmen yararlı, 12 eklemdeyse (%40) faydasız olarak değerlendirildi. On dokuz eklemde (%63.3) şişlik tamamen, üç eklemde (%10) kısmen geriledi; 10 eklemdeyse (%33.3) tekrarladi. Dört olguda (%13.3) ağrı, 10 olgudaysa (%33.3) şişlik devam etti. Hastaların 15'i RAS'dan tamamen, beş tanesiye kısmi olarak memnundu. Hastaların %66.7'si memnundu. Diz eklemi için ağrı ve işlev skorlarının medyan değeri 80'di; iki skor bakımından memnun olanlarla olmayanlar arasında anlamlı fark saptanmadı (p sırasıyla 0.753 ve 0.900). Spesifik romatizmal hastalığı olmayanlarda ağrı skoru anlamlı olarak daha iyi bulundu (p=0.031); bu hastalar uygulanan girişimden daha memnundu (p=0.045). Şişlik ve topallamanın devamı skorlarda anlamlı farklılığa yol açmazken şişliğin devam etmesi, tekrarlama ve yürüme güçlüğü hasta memnuniyetini anlamlı olarak olumsuz etkileyen etmenler olarak değerlendirildi (p sırasıyla 0.007, 0.024 ve 0.044).

SONUÇ: Romatizmal hastalığı olmayanlarda memnuniyet oranının daha yüksek olması, sistemik hastalığı olanlarda uzun süreli tatminkar sonuç elde edebilmenin zorluğuyla ilişkili görünmektedir. Skorlarla ve şişlikte gözlenen azalmalarla karşılaştırıldığında daha düşük görünmekle birlikte, memnuniyet üzerinde etkili faktörün şişlik olduğu saptanmıştır. RAS'la elde edilen %70 memnuniyet oranı cerrahi girişimlerin başarısıyla karşılaştırılabilir. Yüksek nüks riski varlığında ve çok sayıda cerrahi girişimden kaçınmak için RAS uygun bir seçenek olarak göz önünde bulundurulmalıdır.

ANAHTAR KELİMELER: Radyoaktif sinovektomi, sinovektomi, sinovit

S18 HEMOFİLİK ARTROPATİDE PATELLOFEMORAL EKLEMDEKİ RADYOLOJİK DEĞİŞİKLİKLER

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AMAÇ: Hemofilide karşılaşılan tekrarlayan kanama atakları, tibiofemoral eklemde patellofemoral (PF) eklemi de etkiler. Hemofilik artropatinin seyri sırasında hem distal femurda hem de patellada kronik, ilerleyici ve geri dönüşümsüz değişikliklerin olması kaçınılmazdır. Bu çalışmada amaç, hafif-orta ve ağır hemofilik artropati olgularındaki PF eklem değişikliklerinin niceliksel olarak değerlendirilmesidir.

YÖNTEM: Bu retrospektif çalışmaya yaş ortalaması $30,30 \pm 12,67$ olan (dağılım 13- 57), 24 erkek hemofili hastasının 33 dizi dahil edildi. Eklem tutulumunun ciddiyeti 32 dizde direk radyografilerle Pettersson skoruna (PS) göre 0-7 arası hafif-orta (14 diz, grup 1), 8-14 arası ciddi (18 diz, grup 2) hemofilik artropati olacak şekilde gruplandırıldı. PS'na göre oluşturulan grupların yanı sıra ikincil bir gruplandırma daha yapıldı. Hastalar yaşlarına göre 25 yaşın altında ve üstünde olacak şekilde iki gruba ayrıldı. Patellanın (mediolateral (ML)) uzunluğu ve (anteroposterior) kalınlığı, transepikondiler eksenin (TEE) uzunluğu, sulkus açısı, lateral ve medial femoral kondillerin anteriorda en çıkıntılı olduğu noktalar arasındaki tepeler arası mesafe aksiyel manyetik rezonans ya da bilgisayarlı tomografi kesitlerinde ölçüldü. Uzunluklar tetkiklerin üzerinde belirtilen büyütme oranları gözönüne alınarak hesaplandı. İstatistiksel analiz SPSS v16 paket programı kullanılarak yapıldı. Gruplar arası karşılaştırmada t testi kullanıldı. Anlamlılık düzeyi 0,05 olarak belirlendi.

BULGULAR: Hemofilik artropati hastalarında 16 dizde (%48,5) patellar morfolojinin bozulmuş olduğu, altı dizde (%18,2) medial, dokuz dizde (%27,3) lateral patellar tilt olduğu, 18 dizde (%54,5) patellar tiltin olmadığı gözlemlendi. Bir hastada PF sinostoz saptandı. Patellanın ML uzunluğu grup 1'de ortalama $40,31 \pm 9,32$ mm, grup 2'deyse $43,98 \pm 6,56$ mm; kalınlığı grup 1'de ortalama $18,04 \pm 6,73$ mm, grup 2'de $20,19 \pm 7,14$ mm olarak bulundu. Aradaki fark istatistiksel olarak anlamlı olmamakla birlikte ciddi hemofilik artropati olgularında patellanın daha uzun ve daha kalın olduğu gözlemlendi (p değerleri sırasıyla 0,201 ve 0,393). TEE uzunluğu grup 1'de ortalama $77,93 \pm 15,81$ mm, grup 2'de $80,64 \pm 11,93$ mm olarak bulundu. İki grup arasında anlamlı bir fark saptanmamasına karşın grup 2'de distal femurun genişlemiş olduğu saptandı (p=0,583). Sulkus açısı bakımından iki grup arasında anlamlı bir fark saptanmadı (grup 1'de ortalama $130,02^\circ \pm 13,76^\circ$, grup 2'de $126,90^\circ \pm 17,35^\circ$, p=0,585). Tepeler arası mesafe ve tepeler arası mesafenin TEE uzunluğuna oranı grup 2'de artmış bulundu (p sırasıyla 0,175 ve 0,203). Hastalar yaşlarına göre gruplandırıldığında patellanın uzunluğunun TEE uzunluğuna oranı yaşlı grupta anlamlı olarak daha fazla bulundu (p=0,041).

SONUÇ: İleri ve hafif tutulum arasında istatistiksel bir fark gösterilememiş olmakla birlikte hemofilik artropatinin ilerlemesiyle PF eklemde morfolojik değişiklikler olmaktadır.

ANAHTAR KELİMELER: Hemofili, hemofilik artropati, patellofemoral eklem

S19 15-YEAR-EXPERIENCE OF A KNEE ARTHROSCOPIST: FROM DIAGNOSTIC TO RECONSTRUCTIVE SURGERY

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OBJECTIVES: Arthroscopic knee surgery is an experience-demanding procedure throughout diagnostic and reconstructive parts. Although the literature says that there must be no need for diagnostic arthroscopy today, most arthroscopic surgeons have gained experience and developed themselves by the help of diagnostic arthroscopy and some basic procedures like debridement and lavage. The purpose of this study was to observe what happened in the 15-year-experience of an orthopaedic surgeon who deals in knee arthroscopy. The hypothesis was that the mean age of the patients, who have undergone arthroscopic procedures, would decrease, and the percentage of the diagnostic and debridement applications would diminish and reconstructive procedures would increase.

METHODS: For this purpose, 959 patients who have undergone knee arthroscopy in 15 years, were evaluated retrospectively. The gender, age, operation year and the procedure applied for the patient were enrolled on an Excel file. Chi-Square test was used for statistical evaluation. The patients were divided into three groups according to the year they were operated. Period 1 included the patients who were operated between the years 1999-2003, Period 2 between 2004-2008 and Period 3 between 2009-2013. According to their ages, the patients were evaluated in three groups; Group 1 included the patients ≤ 25 years old while Group 2 between 26-40 and Group 3 ≥ 41 . Arthroscopic procedures were evaluated in three groups: Group X: meniscectomy, chondral debridement, lavage, synovectomy, loose body removal. Group Y: ACL and PCL reconstruction, meniscal repair. Group Z: Microfracture, lateral release, meniscal normalization, second look arthroscopy, diagnostic arthroscopy before osteotomy.

RESULTS: Among all patients, 60 % was male and Group 3 (45.4 %) was the larger group in population. The procedures in Group X were used in most of the operations (59.2 %). The population of the patients in the periods increased gradually throughout the years: 24 % in Period 1, 36.6 % in Period 2 and 39.4 % in Period 3. While the population of Group 3 was higher than the others in the first two periods, Group 2 was the leader in the last period ($p < 0.001$). While male/female ratio was statistically insignificant in Periods 1 and 2, the number of the males in Period 3 was statistically higher than the females ($p < 0.001$). The procedures in Group Y were used significantly for males in Periods 2 and 3 ($p < 0.001$). The procedures in Group X were used significantly for females ($p < 0.001$) while the ones in Group Y were applied for males ($p < 0.001$). Among all arthroscopic procedures, Group X was the leader in Period 1 (85 %) but this frequency decreased throughout the years and the procedures in Group Y increased gradually more than twice consisting more than half of the procedures in Period 3 ($p < 0.001$).

CONCLUSION: Throughout the years, the age of the patients, for whom arthroscopic procedures were done, and the percentage of debridement and diagnostic procedures have decreased, while the population of the patients and the number of the reconstructive procedures, especially for males, have increased. The results were statistically significant. In our opinion, this statistical conclusion must be the usual academic development of an orthopaedic surgeon who deals mostly with knee arthroscopy in his daily practice. This must be a guide for young arthroscopists.

KEYWORDS: ACL reconstruction, Arthroscopist, Arthroscopy, Debridement, Meniscectomy

S20 ARTROSKOPİ DESTEKLİ REDÜKSİYON VE OSTEOSENTEZ YAPILAN TİBİA PLATO KIRIKLARININ SONUÇLARININ RETROSPEKTİF DEĞERLENDİRİLMESİ VE ARTROSKOPİNİN TİBİA PLATO KIRIKLARINDAKİ ROLÜ

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AMAÇ: 2006-2013 yılları arasında, tek cerrah tarafından, artroskopi destekli redüksiyon ve osteosentez yapılarak tedavi edilen tibia plato kırıklı 31 hastanın fonksiyonel ve radyolojik olarak orta ve uzun dönem sonuçlarının değerlendirilmesi amaçlanmıştır.

YÖNTEM: Bu çalışma retrospektif vaka serilerinin değerlendirildiği bir çalışma olarak tasarlanmıştır. Tepecik Eğitim ve Araştırma Hastanesi ve Özel İzmir Hastanesi'nde 2006 ile 2013 yılları arasında başvurmuş, artroskopi destekli redüksiyon ve osteosentez yapılarak aynı cerrah tarafından tedavi edilmiş olan tibia plato kırıklı 52 hasta retrospektif olarak değerlendirilmiştir. Takipten çıkarak yeterli veriyi sahip olmayan hastalar çıkarılarak kayıtları tam olan 31 hasta çalışmaya dahil edilmiştir. Hastane kayıt sisteminden elde edilen verilerle vakalar geriye yönelik olarak; yaralanma mekanizmaları, fizik muayene bulguları, ameliyat kayıtları, eşlik eden eklem içi patolojiler, allogreft veya otogreft kullanımı ve radyolojik bulguları ile değerlendirilmiştir. Preoperatif değerlendirme Shatzker Sınıflandırması ile yapılmıştır. Yüzen diz ,eşlik eden tibia diafiz kırığı, femur distal intraartiküler kırık, kompartman sendromu, damar sinir yaralanması olan hastalar çalışma dışında bırakılmıştır. Shatzker tiplendirmesi bir dışlama olarak alınmamıştır. Sonuçlar Rasmussen radyolojik ve klinik değerlendirme skorlaması ile istatistiksel olarak incelenmiştir.

BULGULAR: Ortalama yaşları 46,3(min.18-maks.67)olan 31 hasta (23 Erkek,7 Kadın) çalışmaya dahil edilmiş ve ortalama 45 ay takip edilmiştir. 15 hastada artroskopi sırasında görülen eşlik eden menisküs sorunu görülmüş ve yırtığın durumuna göre onarım veya menisektomi yapılmıştır. 10 hastada eklem yüzünün restorasyonunu sağlamak için otogreft veya allogreft kullanılmıştır. Kırığın durumuna göre medial ve/veya lateral plak veya vida ile osteosentez yapılmıştır. Takip süreleri sonunda Rasmussen Fonksiyonel Skorları ortalama 25,7; Rasmussen Radyolojik Skorları ortalama 16,5 olarak ölçülmüştür. 3 hastada takipler sırasında artrofibrozis sebebiyle gelişen hareket kısıtlılığı nedeniyle ikincil olarak artroskopik gevşetmeye gerek görülmüştür.

SONUÇ: Artroskopi yardımcı eklem içi kırık tedavisi ilk olarak 1993 yılında diz ekleminde başlamış ve hızlı bir gelişme göstermiştir. Artroskopik cerrahi tedavi uygulanmış serilerin iyi sonuçlarının yayınlanmaya başlaması ile, bizim de dahil olduğumuz birçok merkezde artık tibia plato kırıklarının standart tedavisi artroskopik olarak yapılmaktadır. Artroskopinin tedavide sağladığı en büyük fayda eklem içi diğer patolojilere aynı anda müdahale edebilme imkanı vermesi, bu patolojilerin diğer görüntüleme yöntemlerine göre akut veya kronik dejenerasyon zeminde olup olmadığı konusunda daha somut çıkarımlara izin vermesi, kırık hasarının daha net bir şekilde tanımlanması ve anatomik redüksiyonun daha iyi kontrol edilebilmesidir. Çalışmamızda bir kontrol grubunun olmaması karşılaştırma açısından bir yetersizlik olarak görülse de literatüre bakıldığında çıkarımımız artroskopi kullanımının, kompartman sendromu gibi ek komplikasyonlara sebep olmaksızın, tibia plato kırıklarının sonuçlarını olumlu etkilediği yönündedir.

ANAHTAR KELİMELER: Artroskopi, Tibia Plato

S21 MEDİAL MENİSKÜS SUBLUKSASYONU SONRASI DİZ EKLEMİNDE ORTAYA ÇIKAN YÜKLENMELERDEKİ DEĞİŞİMLER: SONLU ELEMANLAR ANALİZ ÇALIŞMASI

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AMAÇ: Medial menisküs subluksasyonu sonrası diz eklemde dejenerasyonun arttığı gerek klinik gerek radyolojik çalışmalarda ortaya konmuştur. Fakat kıkırdak aşımının etiyolojik faktörlerinden olan orantsız stres dağılımının (kıkırdağa binen yükün artımı) sonlu elemanlar analiz yöntemi ile değerlendirilmesi yapılmamıştır. Bu çalışmanın amacı medial menisküs subluksasyonu sonrası diz eklemdeki yapılar etki eden yüklenmelerdeki değişimleri incelemek ve menisküs subluksasyon miktarı ile olan ilişkisi sonlu elemanlar analiz yöntemi ile ortaya koymaktır.

YÖNTEM: İnsan üç boyutlu (3D) bilgisayarlı tomografi kesitlerini kullanarak MIMICS® programı yardımıyla insan 3D diz eklemi katı modeli oluşturuldu. Modeller üzerinde sonlu elemanlar analiz metodu ile 1mm den başlayarak ardışık olarak 10 mm' ye kadar medial menisküs subluksasyonu simüle edildi. Menisküs subluksasyon miktarına göre referans model dahil toplam 11 model oluşturuldu. Tüm diz içi yapılar (Menisküsler, intermeniskal bağ, çapraz bağlar, yan bağlar, femur ve tibia kıkırdakları) MIMICS® ve SolidWorks® yardımıyla oluşturuldu. Yük dağılım analizleri için ANSYS® V14 kullanıldı. Analizler statik olarak ayakta duran insan modeli taklit edilerek yapıldı yük femur başından, mekanik aks doğrultusunda diz ekleminden geçecek şekilde 1000 Newton(N) olarak uygulandı. Analizlerde maksimum eş değer gerilmeler (Von-Mises Stres) değerlendirildi ve Megapaskal (MPa- Newton/mm2) şeklinde not edildi.

BULGULAR: Maksimum yük miktarları referans modelde tibia-femur kıkırdağı, medial-lateral menisküsler, medial-lateral yan bağlar ve ön-arka çapraz bağlarda sırasıyla, 1.68 MPa, 1.75 MPa, 10.94 MPa, 5.14 MPa, 8.10 MPa, 6.38 MPa, 7.55 MPa ve 15.20 MPa olarak elde edildi. Menisküs subluksasyon derecesi arttıkça diz içindeki tüm yapılar etki eden yüklenme miktarı artmıştır. 10 mm subluksasyon modelinde en çok yüklenme lateral yan bağ ve lateral menisküste elde edilmesine rağmen referans model ile kıyaslandığında 10 mm subluksasyon modelinde tibia kıkırdak üzerinde etki eden yükler 22.73 kat artarak en çok etkilenen yapının tibia kıkırdağı olduğu tespit edilmiştir.

SONUÇ: Bu sonuçlar göstermiştir ki medial menisküs subluksasyonu özellikle tibia kıkırdağı olmak üzere tüm diz içi yapıları etkilemekte, bu bölgelere etki eden yüklenmelerin artışına sebep olmaktadır. Deneysel çalışmalar kıkırdak üzerinde oluşan anlık yüklenmelerin 14 MPa'ı aştığı durumlarda hücre ölümünün %60 civarında olduğunu, yüklenmenin 20-25 MPa olduğu durumlarda ise kıkırdak dokusunun tamamına yakınının öldüğü bildirilmiştir. Buna göre kıkırdak dayanıklılığı kişiden kişiye, yüklenme şekline, kilo ve kıkırdak kalınlığına göre değişse de bizim modellerde elde ettiğimiz sonuçlara göre 6mm subluksasyon sonrası tibia, 8 mm subluksasyon sonrası ise femur kıkırdaklarında oluşan yüklenmelerin kıkırdak ölümü için ön görülen eşik değerleri aştığı görülmektedir. Bu çalışma daha önce yayınlanan klinik, radyolojik ve deneysel çalışmaları sonlu elemanlar analiz yöntemi ile doğrulamıştır.

S22 MEASUREMENT OF REGIONAL BONE DENSITY OF THE KNEE FOLLOWING ANTERIOR CRUCIATE LIGAMENT RUPTURE BY COMPUTED TOMOGRAPHY

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OBJECTIVES: The purpose of this study was to determine the regional bone mineral density changes of the knee after anterior cruciate ligament rupture and correlate with the duration after injury, age and gender of the patient.

METHODS: 31 patients diagnosed as anterior cruciate ligament rupture with between June 2010 and February 2014 were included in this retrospective study. The measurements were performed in seven predetermined regions by using axial and sagittal plane computed tomography images. The mean trabecular bone densities of these certain regions were measured in terms of Hounsfield units by using a circular region of interest approximately 10-15 mm in diameter.

RESULTS: The trabecular bone densities at four of seven regions were negatively correlated with the duration after injury in Spearman's correlation analysis. The bone densities of D1 (anteromedial area of the proximal tibia), D2 (anterolateral area of the proximal tibia), D3 (posteromedial area of the proximal tibia) and D4 (posterocentral area of the proximal tibia) regions had statistically significant negative correlation with preoperative duration ($P < 0.05$, r -0.410, -0.501, -0.418 and -0.439, respectively). Multiple linear regressions analysis demonstrated independent negative correlation between the duration after injury and only D1 region ($p = 0.009$).

CONCLUSION: The present study demonstrated that, bone mineral density of the knee decreases by the time after ACL rupture particularly in anteromedial area of proximal tibia corresponding to ACL fixation area (D1). Thus, prolonged preoperative duration may decrease bone quality and influence the success of reconstructive surgery.

KEYWORDS: Anterior cruciate ligament; rupture; bone density; computed tomography

S23 RESULTS OF MENISCUS REPAIR FOR THE HYPERMOBILE MEDIAL MENISCUS

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OBJECTIVES: There have been very few studies on hypermobile lateral meniscus, but hypermobility of the medial meniscus has not been reported; the latter is more common in our practice. It is characterized by lax peripheral attachment of the middle 1/3 of the medial meniscus without a tear existing. In its most severe form (grade III) the meniscus can be displaced to the middle of the plateau and everted more than 60 degrees by probing the meniscocapsular attachment. The purpose of the present study is to analyse the clinical features of hypermobile medial meniscus and the results of meniscus repair.

METHODS: 14 patients (14 knees; 10 right) underwent arthroscopic meniscal repair for hypermobile medial meniscus. Men and women were equally affected; av. age was 28(14-46) years. The duration of symptoms were av. 18(2-96) months. Six cases (43 %) had no history of trauma. The most common symptoms were medial joint line pain (n:14), locking (n:9), giving way (n:9), rest pain (n:9) and inability to squat (n:5). The most common clinical findings were medial joint line tenderness (n:11), positive McMurray's test (n:9), medial retinacular tenderness (n:6), and effusion (n:3). 13 patients were rated as poor by the Lysholm scale; av.52(35-85), av. Tegner activity level was 5.6(3-9). MRI, available for eight patients, did not show any specific findings. Arthroscopy did not reveal any other lesions to explain the mechanical symptoms. SPSS 16,00 for Windows (Statistical Program for the Social Services Inc, Chicago, IL, USA) program was used for statistical analysis. Continuous variables were defined as mean \pm standard derivation. Variables were tested for normal distribution by using the Kolmogorov-Smirnow test. Differences between the groups were assessed by using unpaired t-test or Mann-Whitney U-test instead, if continuous variables did not have normal distribution. Paired sample t-test was used to compare continuous variables (data of Tegner and Lysholm scores, preoperative and at last control), $P < 0.05$ was accepted as statistically significant.

RESULTS: All the patients were available for follow-up; av.32(6-59) months. 11 patients (78 %) had no mechanical symptoms. Patients' own evaluation was; 3 very good, 7 good, 3 fair and 1 poor. 13 patients were better. At follow-up, significant improvement was obtained in Lysholm score which was av. 84(52-100) ($p < 0.01$); 9(64 %) good-excellent, 4(28%) fair and 1(7%) poor. Tegner levels were almost regained :Decrease by 1 grade(av 4.7,1-9) ($p=0.026$). Despite satisfactory results, more than half had minor symptoms and findings.

CONCLUSION: Hypermobile medial meniscus is characterized by medial pain and mechanical symptoms. Two types can be distinguished: traumatic and atraumatic. For significant hypermobility, the meniscus should be stabilized by repair. Patients benefit from repair, but more than half continue to have minor symptoms.

KEYWORDS: Medial meniscus hypermobility, meniscus repair

S24 HOW CONSISTENT ARE THE MRI FINDINGS AND THE CLINICAL OUTCOMES AFTER MENISCUS REPAIR?

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OBJECTIVES: The meniscal repair is a preferred treatment whenever possible after meniscus tear. There are reports in the literature that MRI assessment is not useful to evaluate healing of the meniscus after repair. However, we have not found any study which compares the clinical outcomes of meniscus repair according to the MRI findings. The purpose of this study was to compare the MRI features and the clinical outcomes after meniscus repair.

METHODS: 32 patients underwent meniscus repair between January 2011 and June 2013. Twenty three of them accepted a control MRI examination at last follow-up visit. One patient was more than 130 kg in weight so it was not possible to perform MRI examination in our institution. Therefore, twenty-two patients (17 male, 5 female) were included in this study. The mean age was 31.81 (range; 18-48). Preoperative clinical and radiological findings were obtained from the hospital registry. At last follow-up, the clinical examination and MRI assessment were performed. The results were compared statistically with the ANOVA method.

RESULTS: MRI assessment, obtained at the last follow-up, was performed blindly by the radiology specialist and senior surgeon and any conflicts between the two assessments were settled by using the preoperative MRI findings. In 10 patients (45.45%) the MRI examination revealed normal/nearly normal meniscal signal alteration, in three (13.64%), incomplete tear and in nine (40.91%), a vertical/complex tear signal located in the previously torn meniscus area. Post-operatively the mean Lysholm score was 91.40 ± 10.57 and Tegner activity score, 4.59 ± 1.62 . Also, the Lysholm score (91.5 ± 12.44 , 94.33 ± 5.50 and 90.33 ± 10.34 , respectively) and Tegner activity score (4.2 ± 1.87 , 6 ± 1.00 and 4.5 ± 1.33 , respectively) were evaluated in each group separately, however the difference was not statistically significant ($p > 0.05$).

CONCLUSION: In the present study there was no correlation between the MRI signals and clinical outcomes. The Lysholm score was found to be over 90 in 20 of the 22 knees in this series. In conclusion the findings reveal that the meniscus fulfils its function as normal or nearly normal even though the MRI findings fail to prove healing, in the mean 19.5 months' period postoperatively.

KEYWORDS: Meniscus tear, repair, MRI

S25 MENİSKÜS YIRTIKLARINDA ARTROSKOPİK TAMİR SONUÇLARIMIZ

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AMAÇ: Yapılan çalışmalar menisküsün diz fonksiyonlarında önemli biyomekanik roller oynadığını göstermiştir. Menisektomi yapılmış hastaların uzun dönem takiplerinde dejeneratif değişiklikler görülmektedir. Parsiyel menisektominin dahi kırıkta yüzeylerinde temas basıncını arttırdığını gösteren çalışmalar mevcuttur. Bu nedenlerden dolayı menisküs yaralanmalarında tamir güncel standart bir yaklaşımdır. Bu çalışmada en az 1 yıllık takibi olan menisküs tamiri uyguladığımız hastaların klinik sonuçları ve eşlik eden patolojilerin etkileri araştırılmıştır.

YÖNTEM: Ağustos 2005 ve Mart 2013 tarihleri arasında kliniğimizde gerçekleştirdiğimiz toplam 128 vakaya yapılan artroskopik menisküs tamirini değerlendirdik. Operasyon sırasında standart anteromedial, anterolateral ve gerekli görülen hastalarda posteromedial ve posterolateral portaller kullanıldı. Hastalarımız preoperatif ve postoperatif son rakiplerinde Lysholm, Tegner ve IKDC skorları ile değerlendirildi. Inside-out, outside-in, all inside tamir tekniklerinin yanında çeşitli tamir implantları ile de tamirler gerçekleştirildi. Hastalar postoperatif takiplerinde kontrol MR tetkiki ile değerlendirildi. Postoperatif takiplerinde yüzeysel veya derin enfeksiyon gelişen, semptomları devam eden veya ilk cerrahileri sırasındaki ön çapraz bağ rekonstrüksiyonunun başarısız olması nedeni ile revizyon ön çapraz bağ rekonstrüksiyonu yapılan hastalara second-look artroskopik muayene yapıldı. Son takiplerinde hastaların IKDC, Lysholm ve Tegner skorları ile birlikte direkt grafi bulguları ve kontrol MR tetkikleri değerlendirildi.

BULGULAR: 24 hastanın lateral menisküsü, 2 hastanın hem medial hem lateral menisküsü ve 102 hastanın medial menisküsü tamir edildi. Menisküs tamiri tekniği olarak 1 hastada meniskal dart, 5 hastada all-inside, 52 hastada ikinci jenerasyon implant, 25 hastada outside-in, 42 hastada inside-out tekniği, root tamiri yapılan 3 hastada sütür anchor kullanıldı. Hastaların 64 tanesinde eşlik eden ön çapraz bağ rüptürü aynı seansta rekonstrükte edildi. İzole menisküs tamiri yapılanlarda augmentasyonu için 26 hastaya mikrokirik, 3 hastaya tek başına kan pıhtısı, 1 hastaya kan pıhtısı ve mikrokirik birlikte uygulanırken kalan 34 hastaya ise lokal canlandırma ve trefinasyon uygulandı. Ortalama takip süresi 37,69(12-105) aydır. Hastaların preoperatif IKDC skoru ortalama 34,4 iken postop IKDC skoru 72,6 idi. Hastaların preop Lysholm skoru 32,9 iken postop Lysholm skoru ortalaması 72,4 İdi. Hastaların preop Tegner aktivite skoru 4,39 iken postop Tegner aktivite skoru ortalama 5,66 idi.

SONUÇ: Menisküs tamirlerinin sonuçları olumludur. Son yıllarda menisküs tamir endikasyonları genişlemiştir. Hastaların fonksiyonel skorlarındaki ve aktivite seviyelerindeki artış son yıllarda kabul görmüş olan menisküs koruyucu cerrahilerin önemini vurgulamaktadır. Bu nedenle iyileşme şansı olduğu düşünülen her hastada menisküs tamiri uygulanmalıdır. Bu sayede mümkün olan en fazla fonksiyonel menisküs dokusu sağlanarak ikincil kırıkta sorunlarının önüne geçilebilir.

ANAHTAR KELİMELER: Menisküs, artroskopi, tamir

S26 MENISCAL REPAIR IN HIGH LEVEL ATHLETES USING THE ALL-INSIDE TECHNIQUE FACTORS ASSOCIATED WITH FAILURE

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OBJECTIVES: The aim of this study is to present the results of all-inside meniscal repair in high level athletes, and to highlight factors that predispose to failure of the repair

METHODS: This is a prospective study of meniscal repair in athletes using the all-inside technique with the Fast-Fix system, throughout the period 2003-2011. Inclusion criteria were: pre-injury Tegner score ≥ 6 , meniscal tear of the body and/or posterior horn, tear located in the red or red-white zone, treatment within 6 weeks of injury, and follow-up of at least 18 months. Exclusion criteria were: complex tears, and presence of root avulsion and/or tear. Epidemiologic features, the characteristics of the lesion, as well as concomitant injuries were recorded. Tears were categorised as small ($<1\text{cm}$), medium (1-2 cm) and large ($>2\text{cm}$). Time from injury to repair, as well as from repair to return to sports was also recorded. All patients with clinical signs of failure were submitted to arthroscopy. A case was defined as failure when arthroscopy showed a re-tear or a failed repair. Statistical analysis examined which associating factors predispose to failure. The t-test or the Fischer's exact test was used where appropriate. A p-value <0.05 was considered statistically significant.

RESULTS: In total 135 athletes with 141 meniscal tears were included in the study. Mean follow-up was 38.6 months (18-123). There were 120 male and 15 female. Mean age was 24.4 years (12-41). All procedures were performed within a mean of 25.5 days from injury. In 101 cases (71.6%) a concomitant ACL tear was reconstructed at the same time. The medial meniscus was involved in 62% of cases. The tear was located in the red-red zone in 63% of cases. Tears were small in 26 cases (18%), medium in 83 (59%) and large in 32 (23%). Patients returned to play at a mean time of 7.4 months (4-14). Sixteen cases were considered as failure (11.4%), and were revised with partial meniscectomy within 12.2 (4-40) months after primary repair. Failure rate was not associated with age ($p=0.26$), sex ($p=0.68$), concomitant ACL reconstruction ($p=0.77$), time from injury to operation ($p=0.20$), involvement of the medial or lateral meniscus (14.8% vs. 5.6%, $p=0.11$), or location of tear in the red-red or the red-white zone (7.9% vs. 17.3%, $p=0.10$). Failure was 3.8% in small lesions, 12.1% in medium-size tears, and 15.6% in large ones ($p=0.41$). There was a higher probability of failure in patients with a pre-injury Tegner score of 8 or higher (22.6%), compared to Tegner score 6-7 (8.2%) ($p=0.048$). ACL graft failure was also associated with a higher meniscal repair failure rate (62.5% vs. 6.5%, $p<0.001$). Patients with isolated meniscal tear that returned to sports at 5 months or earlier had a higher failure rate compared to those that returned to sports after 5 months (42.9% vs. 6.1%, $p=0.03$)

CONCLUSION: All-inside meniscal repair in athletes had a failure rate of 11.4% in our series and was not influenced by ACL reconstruction or the length of the tear.

KEYWORDS: Meniscus, tear, repair, all-inside, Fast-Fix, athletes

S27 INDICATIONS AND RESULTS OF HIP ARTHROSCOPY IN 288 CONSECUTIVE PATIENTS WITH A MINIMUM FOLLOW-UP OF 6 MONTHS

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We present the indications and results of hip arthroscopy of a series of 288 consecutive patients with a minimum follow-up of 6 months (to 4 years)

METHODS: 288 patients underwent hip arthroscopy between 2009 and 2013. Forty patients were lost in follow-up. For the clinical assessment of the remaining 248 patients we used the modified Harris Hip Score (mHHS) pre-operatively and at 3, 6, 12, and 24 months post-operatively. We documented patients age (mean age was 36, range 16 to 68), sex (178 males, 70 females), indication for arthroscopy (159 femoroacetabular impingement-FAI, 37 osteoarthritis-OA, 15 diagnostic, 10 for osteonecrosis-AVN, 6 post-traumatic(fracture-dislocation), 15 for traumatic labral tear, 5 for synovial osteochondromatosis and one for post-op adhesions), the correlation of pre-operative imaging and arthroscopic findings, surgical time, use of image intensifier and complications. The patient was placed in lateral position in 105 cases and supine in 143 cases.

RESULTS: In the majority of patients FAI was the primary diagnosis where the mHHS showed an improvement from 51 to 92 post-operatively. In 37 were OA was the primary diagnosis 16 required joint replacement within 14 months post arthroscopy. In OA joint space less than 2 mm and presence bone oedema of the femoral head in pre-operative MRI were poor prognostic factors. Ten out of 15 patients where hip arthroscopy was diagnostic chondral injuries were present. Complications: One transient femoral nerve palsy, one superficial wound infection, two cases of instrument breakage within the joint which were successfully removed without sequelae and once inability to access safely the central compartment.

CONCLUSION: The main indication for hip arthroscopy today is FAI. With proper indications hip arthroscopy can significantly improve patient's symptoms in most cases.

KEYWORDS: Hip arthroscopy, Indications, Complications, Results

S28 ARTROSKOPİK ÖN ÇAPRAZ BAĞ CERRAHİSİNDE FEMORAL TÜNELİN TAVANARASI

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AMAÇ: Çalışmamızın amacı şu sorulara cevap aramaktır; (1) Femoral askı implantı ve hamstring oto grefti kullanılarak yapılan artroskopik ön çapraz bağ (ÖÇB) tamirlerinde, manyetik rezonans görüntüleme ile femoral tünel içinde greftin üstü ile implant tüneli girişi arasında kalan boşluğu ölçmek mümkün müdür? (2) Bu boşluğun yüksekliği ile femoral tünel genişlemesi arasında bir korelasyon var mıdır?

YÖNTEM: Çalışmamızda 2008-2009 yılları arasında Endobutton CL ve hamstring otogrefti kullanılarak artroskopik anatomik tek band ÖÇB tamiri uygulanan hastaların verileri retrospektif olarak değerlendirildi. Çalışmadan çıkarma kriterlerimiz; çoklu bağ yaralanması, subtotal veya total menisektomi, parsiyel veya tam kırık defektleri (modifiye Outerbridge Evre II-IV) olan, revision ACL tamirleri, and ÖÇB tamiri sonrası yeniden yaralanması olan hastalar idi. Bu kriterlere uyan 46 hasta çalışmaya alındı. Hastaların ortalama yaşı 28 (20-40), 11'i kadındı. Ortalama takip süresi 31.9 (24-49) ay idi. Son kontrolde hastaların standardize AP ve ekstansiyonda lateral diz radyografileri çekildi. Radyografilerde büyütme işareti mevcuttu. Femoral tünel genişlemesi AP grafide en geniş yerden tünelin uzun aksına dik olacak flekilde ölçüldü. Tünel çaplarındaki değişiklikleri analiz edebilmek için operasyondaki tünel çapları elde edildi ve genişleme yüzde olarak hesaplandı. Hastalara son kontrolde MR çekildi. Özel kesitlerle tünel görüntüleri elde edildi. Femoral tünel tavanındaki greft üzerindeki boflluğun yüksekliğini tespit etmek için öncelikle greft ve loop'un iç içe geçtiği yerin oblik T1 MR görüntülerinde oluşturduğu siyah, dairesel hipertens alanı en iyi dolduran çemberin ortası işaretlendi. Sonra femoral tünelinin bittiği ve implant tünelinin baflladığı yerde, konkavitenin konveksiteye geçtiği noktalar her iki duvarda işaretlenerek bir doğru ile birleştirildi. Hipertens alanın ortasındaki noktadan bu çizgiye çekilen dikmenin uzunluğu tünel tavanındaki boşluğun yüksekliği olarak belirlendi. Femoral tünelin proksimali zaman içinde konikleştikten bir çatıya benzemektedir. Bu nedenle tünel proksimalinde greft üzerinde ölçtüğümüz boşluğu tavanarası boşluğu (attic) olarak tanımladık. İstatistiksel olarak tavanarası yüksekliği ile femoral tünel genişlemesi arasındaki ilişkiyi araştırdık.

BULGULAR: Hastaların ameliyatta açılan ortalama tünel çapları 8.0 ± 0.6 idi. Ortalama femoral tünel genişlemesi, AP radyografide 3.7 ± 0.5 mm ve $\%42.2 \pm 5.4$, MR'da 3.4 ± 0.5 mm ve $\%41.1 \pm 5.7$ olarak saptandı. Femoral tünel tavanarası boflluğu yüksekliği ortalama 9.5 ± 1.6 mm olarak tespit edildi. İstatistiksel olarak femoral tünel tavanarası yüksekliği ile hem standart radyografi hem de MR ile ölçülen femoral tünel genişleme miktarı arasında korelasyon mevcuttu.

SONUÇ: Çalışmamızda femoral tünel tavanarası boşluğu yüksekliği ile femoral tünel genişlemesi arasında pozitif korelasyon tespit ettik. Bu boşluğun yüksekliğinin büyümesi ile greft hareketinin artacağı ve bununda tünel genişlemesini artıracığını düşünüyoruz.

S29 ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION USING A ACHILLES TENDON ALLOGRAFT GRAFT: A RETROSPECTIVE COMPARISON OF TUNNEL WIDENING UPON USE OF TWO DIFFERENT FEMORAL FIXATION METHODS

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OBJECTIVES: To compare femoral and tibial tunnel widening (TW) in patients undergoing anterior cruciate ligament (ACL) reconstruction using an interference screw (IS), or an EndoButton-Continuous Loop (EndoButton-CL®) on the femoral side, and an IS/staple on the tibial side.

METHODS: We retrospectively reviewed data on 46 patients who underwent arthroscopic ACL reconstruction with achilles tendon allografting. Fixation was performed with a bioabsorbable IS (the IS group) in 24 patients (mean age 26.5 years), and with the EndoButton-CL device (the EB group) in 22 patients (mean age 28.1 years) on the femoral side. Evaluation included standardized anteroposterior (AP) and lateral radiography. The diameters of tunnels at the last follow-up visit (at a median time of 17 months postoperatively) were compared to those noted on radiographs taken 1 day postoperatively.

RESULTS: The two groups were similar in terms of age and gender distribution, the operated side, the size of the tunnel created, and the follow-up period ($p>0.05$). Femoral TW at the proximal and middle levels (on both anteroposterior and lateral views) in the IS group was significantly greater than in the EB group ($p<0.050$ for all comparisons). No significant difference in femoral TW at the distal level was evident between the groups, and tibial TW at all levels was similar in both groups ($p>0.050$).

CONCLUSION: Femoral ACL graft fixation using an EndoButton-CL reduced femoral TW compared to use of an IS.

KEYWORDS: Anterior cruciate ligament reconstruction, tunnel widening, EndoButton, interference screw, Achilles tendon allograft.

S30 TEK TARAFLI ANTEROMEDİAL PORTAL VEYA TRANSTİBİAL YÖNTEMLE ARTROSKOPİK ÖN ÇAPRAZ BAĞ REKONSTRÜKSİYONU YAPILAN HASTALARIN MRI TETKİKİ İLE ÖLÇÜLEN GREFT DEĞERLERİNİN KARŞI NORMAL DİZLERLE KARŞILAŞTIRILMASI TİBİAL TÜNEL Mİ, GREFT YERLEŞİMİ Mİ?

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AMAÇ: Tek taraflı anteromedial portal veya transtibial yöntemle ön çapraz bağ rekonstrüksiyonu yapılan hastaların greft değerlerinin, karşı sağlıklı dizlerin greft açılarıyla MRI tetkiki ile karşılaştırmak ve hangi tekniğin anatomiyi daha yakın olduğunu ortaya koymaktır.

YÖNTEM: Ortopedi polikliniğine başvuran bir dizine Transtibial veya Anteromedial portal cerrahi teknikleriyle ÖÇB rekonstrüksiyonu yapılan ve karşı dizinden şikayeti olmayan ve muayenesinde instabilite tespit edilmeyen hastalar çalışmaya dahil edildi. Transtibial grup(TT) yaş ortalaması olan (dağılım) 25 hastanın (24 erkek, 1 kadın) 50 dizinden oluşturuldu. Hastaların 16 sağ, 9 sol dizine cerrahi tedavi uygulanmıştı. Kontrol grubu karşı sağlıklı dizlerden oluşturuldu. Anteromedial portal(AM) grup ise yaş ortalaması 21 hastanın (20 erkek, 1 kadın) 42 dizinden oluşturuldu. Hastaların 12 sol, 9 sağ dizine cerrahi tedavi uygulanmıştı. Kontrol grubu karşı sağlıklı dizden oluşturuldu. MRI çekimi diz 10 derece fleksiyonda çekildi. MRI görüntülerinde net olarak izlenen ön çapraz bağların, sagittal ve frontal planda tibianın anatomik aksı ile arasındaki açıları Sagittal öçb greft açısı(SÖGA), Frontal öçb greft açısı(FÖGA)) ve Tibia eklem yüzüne yapışma orta noktası (Sagittal öçb tibia orta noktası(SÖTON), Frontal öçb tibia orta noktası(FÖTON)) üç ortopedi uzmanı tarafından ölçüldü. Her iki gruptaki değerler, ölçüm yapan uzmanlar arasında ,grup içi ameliyat olan ve sağlam dizler arasında ve her iki grup arasındaki farklar istatistiksel olarak değerlendirildi.

BULGULAR: TT ve AM gruplarının ameliyatlı ve sağlam diz değerlerini ölçen uzmanlar arasında istatistiksel olarak anlamlı fark elde edilmedi. TT ve AM gruplarında, ameliyatlı ve sağlam dizler arasında SÖGA ve SÖTON değerleri bakımından istatistiksel olarak anlamlı fark elde edildi. Ayrıca TT ve AM gruplarının ameliyatlı dizlerinin sonuçları arasında istatistiksel olarak anlamlı fark elde edilmedi. Bu sonuçların yanında TT grubuna göre AM grup değerlerinin sağlam diz değerlerine daha yakın olduğu tespit edildi.

SONUÇ: TT ve AM teknikle yapılan cerrahi tedavilerde, sagittal plandaki anatomik bir rekonstrüksiyon sağlamamaktadır. Ancak AM tekniği ile yapılan ÖÇB değerleri sağlıklı diz değerlerine yakındır fakat ideal bir teknik olduğu konusunda soru işaretleri mevcuttur.

ANAHTAR KELİMELER: Anteromedial Transtibial Ön çapraz bağ Tibial tünel

S31 INJURY OF THE INFRAPATELLAR BRANCH OF THE SAPHENOUS NERVE DURING HAMSTRING GRAFT HARVEST: COMPARISON OF TWO DIFFERENT INCISION

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OBJECTIVES: Sensory disturbance around the surgical incision due to injury of the infrapatellar branch of the saphenous nerve (IPBSN) can be seen in the anterior cruciate ligament (ACL) reconstruction after the operation. In this research we aimed to compare the incidence, extent of sensory loss, its clinical effect and natural course caused by two different skin incisions used for autogenous hamstring graft harvest during ACL reconstruction.

METHODS: Seventy eight patients who underwent hamstring graft harvest during ACL reconstruction participated in the study. Among the 78 patients, vertical incision for 36 patients and oblique incision for 42 patients were used for graft taking. The area of the sensory loss was documented at 6 weeks, 3 months and 6 months follow ups. A blunt pin was used for pin prick examination starting from proximal end of the incision and the patient was asked to note the point of change in sensation from normal to abnormal. The abnormal points were joined and digital photographs of hypesthesia were taken and analysed by computer for area detection. The length of incision and subjective complain of sensory loss were also noted.

RESULTS: The patients' age and incision length between the two groups had no significant difference. At 6 weeks, vertical incision was associated with persistent sensory loss in 77% (28/36) cases which was significantly higher when compared to the oblique incision (19/42). The measured area of hypesthesia was significantly higher in vertical incision (42.4 ± 22.3 cm²) than that in oblique incision (9.3 ± 15.3 cm²) at 6 weeks. On further follow ups at 3 and 6 months, the area of hypesthesia gradually shrunk in size. The recovery pattern was from distal to proximal in direction. Also, subjective cutaneous anaesthesia was higher in vertical incision (15/36, 41%) than oblique incision (6/42, 14%) at 6 months.

CONCLUSION: Injury to the IPBSN can be seen during hamstring graft harvest. Vertical incision has maximum incidence of IPBSN injury. Oblique incision with less risk of nerve damage may be better for graft harvesting in ACL reconstruction. Area of hypesthesia gradually reduces with time and even recover totally. Sensory loss does not impair normal daily activities in most of these patients. As a possible complication, nerve injury and its benign prognosis should be explained to the patient before surgery.

S32 REDUCING INTRA-ARTICULAR HAEMARTHROSIS AFTER ARTHROSCOPIC ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION: COMBINED INTRAVENOUS-INTRA-ARTICULAR TRANEXAMIC ACID ADMINISTRATION

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OBJECTIVES: A significant proportion of surgeons use intra-articular drains after arthroscopic anterior cruciate ligament (ACL) reconstruction. Haemarthrosis and pain adversely affects the functional outcome of ACL reconstruction. The purpose of the study was to evaluate the effect of tranexamic acid (TXA) administration to minimize pain and stiffness of knee joint by reducing haemarthrosis.

METHODS: The study enrolled 123 patients who underwent arthroscopic anterior cruciate ligament reconstruction in a prospective, randomized, double-blind study. The patients who were randomized into the TXA group (71 patients) received both intravenous and intra-articular TXA. The control group (52 patients) did not receive TXA. The anesthetist, surgeon, and observer were blinded to the study group (double-blinded). TXA was administered as a bolus dose of 15 mg/kg 10 min before the inflation of the tourniquet on the first side. This was followed by continued intra-articular administration of 3 g at 10 min before the deflation of the tourniquet. Intravenous infusion of 10 mg/kg/h was continued for the next 3 h. Equal volumes of placebo were administered at the same rate and by the same route. We measured volume of drained blood 48 hours postoperatively.

RESULTS: The Mean (\pm SD) postoperative volume of blood loss from the drain in the TXA and control groups was 100.6 \pm 72mL and 164.3 \pm 75mL ml, respectively. The difference between the two groups was significant ($P < 0.005$).

CONCLUSION: This prospective randomized study showed that during arthroscopic anterior cruciate ligament reconstruction, TXA reduced blood loss and helped to reduce haemarthrosis amount and frequency with negligible side effects. With regard to the administration route, combined intravenous–intra-articular administration of TXA significantly reduces blood loss and the need for puncturing associated with arthroscopic anterior cruciate ligament reconstruction without enhancing the risk of deep vein thrombosis.

KEYWORDS: Haemarthrosis, Drain, ACL reconstruction, tranexamic acid

S33 RETURN TO SOCCER FOLLOWING ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

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OBJECTIVES: Anterior cruciate ligament injury is one of the most serious and career-threatening injuries in soccer. Despite its' relatively high prevalence there are very few studies specifically focusing on return to competitive soccer following this serious injury. The aim of this study is to identify in a group of soccer players following anterior cruciate ligament reconstruction (ACLR): a) when do they return to play (RTP), b) at what level, c) whether they retain this level, and d) which factors influence the results to the previous questions.

METHODS: Inclusion criteria were: Male, soccer players (pre-injury Tegner score of at least 7), surgically treated with an ACLR through the period January 2004 – May 2012, with a minimum follow-up of 12 months following RTP. All patients were operated by a single surgeon and they all followed the same rehabilitation protocol post-op. The same criteria for allowing RTP were used for all patients. These included subjective (negative Lachman and pivot test, absence of oedema, full ROM – no pain, no instability), and objective findings (continuity of graft in MRI, ergometric tests, hop test, and isokinetic test that meets 100% strength of the contralateral leg). Information regarding demographics, associated injuries, type of treatment, and outcome in terms of RTP at the latest follow-up were recorded for all patients included in the study. Time to RTP was defined as the time period from surgery to participation at a full-length game. The time that a patient quitted soccer for any reason or the graft failed was considered as the end point of the follow-up for these patients. Statistical analysis was performed using Fischer's exact test for proportions and Student's t-test for continuous variables. All tests were two-tailed and a p-value <0.05 was considered statistically significant.

RESULTS: Sixty five cases (sixty four patients, one bilateral at a different time) fulfilled the inclusion criteria and were included in the study. Mean age was 22.1 years (range 14 – 35). Thirteen cases had a pre-injury Tegner score of 7, and fifty two were Tegner 9. Graft selection was hamstrings autograft in fifty eight cases, bone- patellar tendon- bone (BPTB) in five, and quadriceps autograft in one. In 37 cases there were associated injuries in the knee. There were 36 cases with a meniscal tear, which were treated with either repair, partial meniscectomy or just shaving. There were 2 cases with an associated medial collateral ligament injury, and four cases with a cartilage grade 3 or 4 defect. All cartilage lesions were in the medial femoral condyle and were treated with microfractures at the time of ACLR. Mean follow-up was 39 months, with a range of 3 to 109 months. In sixty four cases (98%) the patient returned to competitive soccer in an average time of 6.7 months (range 4 – 10). Sixty patients (92%) returned to their pre-injury level of activity, while 4 returned to a lower level. At the last follow-up another three patients were playing at a lower level than the one at the time of RTP. Ten patients (15%) had a graft failure. Average time to failure was 16.4 months post-RTP (range 3 to 49). Another four patients (6%) developed a meniscal lesion, while two (3%) developed a cartilage lesion requiring some kind of intervention at some point. At the final follow-up seven players had quitted soccer for reasons unrelated to their knee. No statistically significant correlation between graft failure and age, presence of associated injuries or time to RTP was found. The same was true for the development of other knee lesions post-op. Patients with a medial meniscus injury were more likely to return to play at a lower level (p=0.024), regardless of treatment for the meniscus. RTP was achieved statistically faster in patients with a pre-injury higher Tegner level (p=0.004). There was no graft failure, other complication or decline at level of activity in patients that returned to play earlier than 6 months post-op compared to ones that returned at 6 months or more.

CONCLUSION: A high percentage of soccer players can return to competitive play following ACL reconstruction. When strict criteria that dictate time to RTP are followed, most of them (89%) can retain the level at which they compete. Early return to play (< 6 months post-op) for soccer players that meet these criteria, is not correlated with higher complications or a worst outcome.

KEYWORDS: Return to sports, soccer, anterior cruciate ligament, reconstruction

S34 ERKEN GONARTROZDA MEDİAL AÇIK KAMA YÜKSEK TİBİAL OSTEOTOMİ YAPILAN HASTALARIN SONUÇLARI

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AMAÇ: Bu çalışmada medial gonartroz tedavisinde, medial açık kama osteotomilerinin endikasyonları, tekniği ve orta dönem sonuçları açısından değerlendirilip literatür ile kıyaslanması amaçlanmıştır.

YÖNTEM: Kocaeli Üniversitesi Tıp Fakültesinde 2008-2012 yılları arasında 102 hastanın 108 dizinde medial açık kama osteotomisi uygulanmıştır. Bu hastalardan 77 (80 diz) tanesine ameliyat sonrası dönemde ulaşılarak kontrol muayenesine çağırılmıştır. Kontrol edilen 77 hastanın 80 dizi çalışma grubu olarak kabul edilmiştir. Ortalama takip süresi 35 aydır. Ameliyat öncesi 49,69 olan ortalama WOMAC skorunun son değerlendirmede 85,57 ye çıktığı bulunmuştur. Mevcut hastaların sonuçlarına göre mekanik aks ortalama 1.9 derece, anatomik aks ortalama 7.31 derece valgus açısı elde edilmiştir. Medial açık kama osteotomisi uygulanan hastaların alt ekstremitte aksı ve ağrı skor değerlendirmelerine göre hasta memnuniyetinin yüksek olduğu görülmüştür.

BULGULAR: Çalışma sonuçlarımıza göre ameliyat sırasında hasta yaşının ameliyat sonrası sonuçlara bir etkisi yoktur. Cinsiyet farkı gözetenek yapılan incelemede erkek hastaların ağrı skorları kadın hastalara göre daha başarılı bulunmuştur. Lateral korteks devamlılığı korunan hastaların kullanılan tespit seçenekleri arasında anlamlı fark saptanmamıştır. Sonuçları olumsuz etkileyen en önemli faktörler gonartroz evresinin ileri olması ve elde edilen valgus diziliminin değerinin korunamamasıdır. Valgus diziliminin korunduğu dizlerde başarılı sonuçlar yıllarca devam etmektedir.

SONUÇ: Sonuç olarak medial osteokompartmantal artrozu olan uygun endikasyondaki hastalarda yüksek tibial osteotomi uygulaması eklemi koruyucu semptomları ve patolojinin ilerleyişini azaltmayı amaçlayan bir tedavi metodudur.

ANAHTAR KELİMELER: Diz biyomekaniği, gonartroz, proksimal tibial osteotomi

S35 OPENING WEDGE HIGH TIBIAL OSTEOTOMY USING TRICALCIUM PHOSPHATE WEDGE: PRELIMINARY RESULTS

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OBJECTIVES: High tibial osteotomy is a standard procedure indicated for early medial sided osteoarthritis in varus knees. In this study we present the early results of high tibial wedge osteotomy cases using beta-tricalcium phosphate as a graft substitute and Otis-c plate.

METHODS: Between years 2010 and 2013, 47 cases of (34F, 13 M) medial compartmental gonarthrosis with genu varum deformity treated with high tibial osteotomy were evaluated involved in the study with at least one year follow up. All patients were evaluated preoperatively both clinically and radiologically. Clinical evaluation involved functional assessment and pain evaluation using Lysholm and visual analog scale (VAS) scores, also knee range-of-motion. Radiological evaluation included medial joint space measurements on weight bearing knee radiographs with measurements of varus angle and posterior tibial slope. Surgical procedure included standard arthroscopy followed by medial sided opening wedge osteotomy with correction of the varus deformity using β - tricalcium phosphate graft substitute and fixation of the osteotomy site using Otis-C plate and locking screws. All patients were evaluated at the end of minimum one-year follow up period.

RESULTS: Mean age of the patients were 56,7 (50- 65) years and mean follow-up period was 24,5 (12- 44) mo's. Mean duration of surgery was 47,4 \pm 10.2 minutes. No case of nonunion, delayed union, neurovascular injury or iatrogenic fracture was encountered. Two cases developed deep vein thrombosis and one case developed superficial wound infection managed successfully by local debridement with retention of implants and antibiotics. Mean duration of union was 13,4 \pm 2.7 weeks. Mean preoperative and follow up range-of-motion were measured as 131 \pm 8.9 and 129 \pm 9.1 respectively with no statistical difference. Preoperative and follow up VAS scores showed significant difference as 7.6 \pm 1.76 and 2.3 \pm 1.08 respectively (p=0.001). Also Lysholm scores improved significantly at the end of the follow up period (43.23 \pm 4.01 vs. 76.3 \pm 3.7 p<0,001). Radiological evaluation revealed mean correction angle of 10.84 \pm 2.70 degrees at follow up. Mean posterior tibial slope was measured relatively unchanged (8.6 \pm 1.70° degrees preoperatively versus 8.2 \pm 2.30° follow up). Medial joint space width measurements showed a significant increase (pre-op 3.7 \pm 1.6 mm. versus 4.6 \pm 1.32 mm. follow up p<0.001).

CONCLUSION: Medial opening wedge osteotomy for treatment of early medial compartment gonarthrosis in varus knees is still a valuable option. Our short term preliminary results using beta-tricalcium phosphate wedge graft substitute and Otis-c plate-screw osteosynthesis revealed satisfactory short term clinical and radiological results with acceptable complication rates.

KEYWORDS: High tibial osteotomy, tricalcium phosphate, medial compartment, Osteoarthritis

S36 PROXIMAL TIBIA MEDIAL BIPLANAR RETROTUBERCLE OPEN WEDGE OSTEOTOMY FOR VARUS KNEES WITH MEDIAL GONARTHROSIS

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OBJECTIVES: The purpose of this study is to evaluate the early results of proximal tibia medial biplanar retrotubercle open wedge osteotomy for varus gonarthrosis and compare the results with the literature.

METHODS: The results of proximal tibia medial biplanar retrotubercle open wedge osteotomy for 23 knees of 22 patients with medial gonarthrosis were evaluated clinically and radiologically.

RESULTS: Twenty of the patients were female and two were male. Mean age of the patients was 56.24; mean boy mass index was 31.95 and preoperative HSS (Hospital for Special Surgery) score was 68.7. Mean tibiofemoral axis was 186.39° and mean Insall-Salvati index value was 1.04 preoperatively. Mean follow up period was 30.19 months. Mean HSS score was 86.48, femorotibial anatomic axis angle was 175° and Insall-Salvati index value 1.06 during the last follow up. The improvement of the HSS score and the femorotibial anatomic axis angle was statistically significant. However, the change in Insall Salvati index values was statistically insignificant. Nonfatal pulmonary embolus in 1 patient, and deep vein thrombosis that occurred one year after the procedure in 1 patient, rhabdomyolysis in 1 patient and loss of correction (relapse) in 1 patient were encountered as complications.

CONCLUSION: Our results show that proximal tibia medial biplanar retrotubercle open wedge osteotomy improves the frontal and sagittal plane deformities without changing the patellar tendon length. Hence, possible patellofemoral problems are prevented and the clinical results are improved.

KEYWORDS: Open wedge osteotomy, Retrotubercle, Biplanar, Patellar tendon

S37 ARE EARLY RESULTS OF ROBOTIC ASSISTED MEDIAL UNICOMPARTMENTAL KNEE ARTHROPLASTY SUCCESSFUL?

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OBJECTIVES: Robotic surgery studies have been increasing in literature in the past years due to its operative advantages on reducing error and improving functional success in partial knee arthroplasty.

METHODS: Data were prospectively collected in 21 patients (31 knees) who underwent MAKOplasty, robotic assisted unicondylar medial knee arthroplasty, between June 2013 – January 2014 in our clinic with an average follow-up time of 5.5 months. Clinical outcomes were evaluated with American Knee Society Scoring System. Additionally, intra-operative digitally planned implant positions on the robot's software were compared with post-operative radiographic component alignment. In the radiographic evaluation; anatomic axis of the tibia was observed in the coronal plane. Tibial posterior slope and flexion angle of the femoral component were observed in the sagittal plane.

RESULTS: Pre-operatively 1 patient was scored fair (60 points) and 20 patients were scored poor (mean, 46.6 points) on American Knee Society Scoring System. Post-operatively all 21 patients had excellent knee scores (mean, 99.67 points). Function-wise 7 patients were scored fair (mean, 60 points) and 14 patients were scored poor (mean, 30.7 points) again on American Knee Society Functional Scoring System. Post-operatively all 21 patients exhibited excellent function scores (mean, 99.04 points). In the radiological evaluation, intra-operative robotic analyses were compared with post-operative radiographic alignment. No significant difference was observed statistically (paired t-test, $p < 0.05$). This comparison is valuable as Lonner, Hernigou, Collier report that mal-alignment by as little as 2° may predispose to implant failures.

CONCLUSION: Robotic assistance greatly improves clinical and functional outcomes and may help prevent implant failures due to surgical error and mal-alignment in partial knee arthroplasty.

KEYWORDS: Robotic assisted, knee arthroplasty

S38 REDUCING BLOOD LOSS IN SIMULTANEOUS BILATERAL TOTAL KNEE ARTHROPLASTY: COMBINED INTRAVENOUS-INTRA-ARTICULAR TRANEXAMIC ACID ADMINISTRATION

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OBJECTIVES: We asked whether tranexamic acid administration could reduce blood loss and blood transfusion requirements after simultaneous bilateral total knee arthroplasty (TKA). This study examined the role of different method of tranexamic acid administration in TKA.

METHODS: The study enrolled 81 patients who underwent simultaneous bilateral total knee replacement in a prospective, randomized, double-blind study. The patients who were randomized into the TXA group received both intravenous and intra-articular TXA. The control group did not receive TXA. The anesthetist, surgeon, and observer were blinded to the study group (double-blinded). TXA was administered as a bolus dose of 15 mg/kg 10 min before the inflation of the tourniquet on the first side. This was followed by continued intra-articular administration of 3 g at 10 min before the deflation of the tourniquet. Intravenous infusion of 10 mg/kg/h was continued for the next 3 h. Equal volumes of placebo were administered at the same rate and by the same route. We measured volume of drained blood 48 hours postoperatively, decrease in hemoglobin levels 12 hours postoperatively, amount of blood transfused, and number of patients requiring allogenic blood transfusion (BT).

RESULTS: Mean (\pm SD) postoperative volume of drained blood was lower in the group receiving tranexamic acid (509.39 ± 224.97 mL) than in control subjects (961.37 ± 427.99 mL). The mean hemoglobin decrease 12 hours postoperatively was lower in patients receiving tranexamic acid (2.07 ± 1.11 g/dL) than in control subjects (3.21 ± 1.05 g/dL). The amount of blood transfused and number of patients requiring blood transfusion were lower in patients receiving tranexamic acid than in control subjects.

CONCLUSION: This prospective randomized study showed that during simultaneous bilateral TKA, TXA reduced blood loss and helped to reduce the BT amount and frequency with negligible side effects. With regard to the administration route, combined intravenous–intra-articular administration of TXA significantly reduces blood loss and the need for BT associated with bilateral simultaneous total knee replacement without enhancing the risk of deep vein thrombosis.

KEYWORDS: Tranexamic acid, simultaneous bilateral total knee arthroplasty, blood loss, blood transfusion

S39 CORRELATION BETWEEN ASYMMETRIC RESECTION OF POSTERIOR FEMORAL CONDYLES AND FEMORAL COMPONENT ROTATION IN TOTAL KNEE ARTHROPLASTY; A MORPHOMETRIC STUDY

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OBJECTIVES: Pertaining to peculiar designs of current knee prostheses, more bone is removed from posteromedial femoral condyle than posterolateral condyle to obtain desired femoral component rotation. The aim of our study was to evaluate whether there is a correlation between the asymmetry of the cuts and the femoral component rotation in total knee arthroplasty.

METHODS: We built a model to simulate anterior chamfer cut (ACC) performed during total knee arthroplasty for measuring posterior condylar offset (PCO). Right knee axial MRI slices of a total 290 consecutive patients (142 male, 138 female, and mean age 31.39 ± 6.6) were examined. A parallel line to surgical transepiphyseal axis was drawn, and placed at the deepest part of trochlear groove. Posteromedial and posterolateral condylar offsets were measured by drawing perpendicular lines to ACC beginning from the intersection points of both anteromedial and anterolateral cortices to posterior joint line (PJL), respectively. Differences between posteromedial and posterolateral PCO were calculated, and femoral rotation angles (FRA) relative to PJL were measured.

RESULTS: The mean surgical FRA was 4.76 ± 1.16 degrees and the mean PCO difference was 4.35 ± 1.04 mm for the whole group and there was no statistically significant difference between genders. There was a strong correlation between surgical FRA and PCO difference ($p < 0.0001$, $r = 0.803$). Linear regression analyses revealed that 0.8 mm of difference between the anteroposterior dimensions of medial and lateral PCO corresponds to 1 degree of surgical FRA ($p < 0.0001$, $R^2 = 0.645$).

CONCLUSION: Correlation between the asymmetry of posterior chamfer cuts and achieved femoral component rotation can verify the accuracy of desired rotation, intraoperatively. However, further clinical investigations should be planned to test the results of our morphometric study.

KEYWORDS: Knee arthroplasty, rotation, alignment, posterior condyle, MRI

S40 KNEE MUSCLE STRENGTH RECOVERY IN THE EARLY PERIOD AFTER ACL RECONSTRUCTION

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OBJECTIVES: The aim of this study was to investigate quadriceps and hamstrings isometric strength at 4, 8 and 12 week time points following ACL Reconstruction (ACLR) and to document the strength changes of these muscles over time. The primary hypothesis was that there would be significant increases in quadriceps and hamstring muscle strengths between the 4th, 8th and 12th weeks following ACLR. The secondary hypothesis was that the quadriceps index would be higher than hamstring index at 12th week after ACLR.

METHODS: Thirty patients (Mean \pm SD [age, 29.1 \pm 2.3yrs; weight, 77.3 \pm 13.2kg; height, 172.1 \pm 7.1cm; BMI, 21.2 \pm 3.5kg/m², time to surgery: 7.1 \pm 7.2 months]) who underwent ACLR with Hamstring Tendon Autograft (HTG) were enrolled in this study. The isometric strength of quadriceps and hamstring muscles was measured on an isokinetic dynamometer at 60° knee flexion angle at 4th, 8th and 12th weeks after surgery. The recovery of quadriceps and hamstring muscles strength following rehabilitation was expressed as a Quadriceps Index (QI) and Hamstring Index (HI) and calculated with the following formula: [(maximum voluntary isometric torque of the involved limb / maximum voluntary isometric torque by uninvolved limb) \times 100]. Torque output of the involved and uninvolved limbs and quadriceps and hamstring indexes were used for the statistical analysis. A repeated measures of ANOVA was used to determine the strength changes of quadriceps and hamstrings over time.

RESULTS: Quadriceps and hamstrings strengths significantly increased over time for both involved (Quadriceps: F (2,46)=58.3, p<0.001, Hamstring: F (2,46)=35.7, p<0.001) and uninvolved limb (Quadriceps: F(2,46)=17.9, p<0.001, Hamstring: F(2,46)=56.9, p=0.001). Quadriceps strength was higher at 12th week when compared to the 8 and 4 week time points for the involved limb (p<0.001), and it was higher at 8th week when compared to 4 week time point for the involved limb (p<0.001). --For the uninvolved limb, quadriceps strength was also higher at 12th week when compared to the 8 (p=0.02) and 4 week time point (p<0.001), and higher at 8 week when compared to the 4 week time point (p=0.02) -Hamstring strength was higher at 12 week when compared to the 8 and 4 week time points (p<0.001) and it was higher at 8 week when compared to 4 week time point for the involved limb (p<0.001). -For the uninvolved limb hamstring strength was also higher at 12 week when compared to 4 week time point (p=0.01). There was no significant difference between the 4 and 8 week time points (p>0.05) or between the 8 and 12 week time points (p=0.07) -Quadriceps and hamstring indexes significantly changed from 4th weeks (QI:57.9, HI:54.4) to 8th weeks(QI:78.8, HI:69.9) and from 8th weeks to 12th weeks (QI:82, HI:75.7) (p<0.001); however, there was no difference between indexes at the 12-week time point (p=0.17).

CONCLUSION: Isometric strength of quadriceps and hamstring muscles for the involved and uninvolved limb increased during the early period of ACLR. The results of this study could be a baseline for clinicians while prescribing a rehabilitation protocol for ACLR patients with HTG to better appreciate expected strength changes of the muscles in the early phase.

KEYWORDS: Anterior cruciate ligament, isometric, knee, hamstring tendon autograft

S41 WHICH ONE ENHANCES MUSCULAR PERFORMANCE IN ACL RECONSTRUCTED SUBJECTS: BRACE OR TAPE?

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OBJECTIVES: The aim of this study was to investigate the effects of functional knee brace and kinesiotaping on muscular performance in anterior cruciate ligament reconstructed subjects who reached return to sport phase of the rehabilitation.

METHODS: Twenty (17 males, 3 females, Age: 24.7±7.1 years, Body weight: 74.4±12.0 kg, Height: 177.9±6.5 cm, BMI: 23.9±3.6 kg/m²) subjects who underwent anterior cruciate ligament reconstruction by using hamstring tendon auto graft were included in this study. When the subjects reached the return to sports phase of rehabilitation which was 6th months after surgery, knee muscle strength, jump performance and balance tests were performed 3 times: bare, with knee brace and with kinesio taping. The order of the tests were randomized to eliminate the effects of fatigue and motor learning. Quadriceps and hamstring muscle strength was measured on an isokinetic dynamometer at 180 °/s and 60°/s angular velocities. Vertical Jump (VJ) and One Leg Hop Tests (OLHT) were used to assess jump performance. Star Excursion Balance Test (SEBT) with anterior, posteromedial and posterolateral reach distance was used to assess the dynamic balance. When all tests were performed, the subjects were asked under which test condition they felt more confident. Repeated measures of ANOVA was used to analyze the difference among three test conditions (bare, kinesiotaping, knee brace). Bonferroni post hoc test was used for pairwise comparison.

RESULTS: SEBT posteromedial (PM) and posterolateral (PL) reach distances were found significantly different among three test conditions (PM: F(2,38)=3.42, p=0.04), PL: F(2,38)=4.37, p=0.02). Kinesiotaping increased posteromedial reach distance (p=0.03). On the other hand, brace decreased posterolateral reach distance (p=0.04). VJ and OLHT performance were also found significantly different between three test conditions (VJ: F(2,38)=3.44, p=0.04, OLHT: (F(2,38)=4.04, p=0.02). Kinesio taping increased one leg hop distance (p=0.01). However, brace decreased VJ distance (p=0.04). Kinesiotaping had no effect on quadriceps and hamstring strength (p>0.05). Only brace increased the quadriceps strength at 180 °/s (p=0.02). 40% of the subjects felt more confident with knee brace; 25% of them were more confident with kinesiotaping and the rest (35%) of them were more confident with no brace and kinesiotaping.

CONCLUSION: Kinesiotaping enhances balance and jump performance except for increasing knee strength in ACLR subjects at 6th months after surgery when they normally return to their sport. Although, knee brace increases quadriceps strength, it has adverse effect on functional performance. Therefore, Kinesiotaping can be applied for those patients when they start their sport specific training to enhance functional performance.

KEYWORDS: Anterior cruciate ligament, strength, hamstring tendon autograft, functional performance

S42 ANTERIOR CRUCIATE LIGAMENT QUALITY OF LIFE QUESTIONNAIRE: TURKISH TRANSLATION WITH RELIABILITY, VALIDITY, AND RESPONSIVENESS EVALUATION

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OBJECTIVES: Despite a number of questionnaires in the area of ACL injuries there is a need for cross-cultural adaptation for patients with ACL reconstruction (ACL-R). To test the measurement properties of the Turkish version of the Anterior Cruciate Ligament Quality of Life Questionnaire (ACL-QOL).

METHODS: One-hundred nineteen patients with ACL-R completed internal consistency, agreement, construct validity, floor and ceiling effect analyses. Eighty out of 119 patients with ACL-R completed the Turkish adapted version of the ACL-QOL questionnaire twice for the test-retest reliability. A subgroup of thirty-nine patients undergoing physiotherapy were also asked to answer the ACL-QOL questionnaire, the Lysholm knee scale (LKS), Knee Outcome Survey – Activities of Daily Living Scale (KOS-ADLS) and the Short Form-36 (SF-36) at preoperative, 16th week and 2 years post-operatively to assess responsiveness.

RESULTS: The questionnaire had high internal consistency (Cronbach $\alpha=0.95$). The paired t-test showed no significant difference between the test-retest means. The intraclass correlation was excellent for reliability and agreement in five domains and overall score (ICC: 0.95, 0.95, 0.97, 0.95, 0.96, and 0.95; $p<0.001$). The standard error of measurement (SEM) and the minimum detectable change (MDC95) were found to be 3.14 points and 8.70 points, respectively. The questionnaire showed a fair correlation ($r=0.23$) with (LKS) and a poor correlation ($r=0.14$) with (KOS-ADLS); good and very good construct validity ($r=0.51$, $r=0.62$) with SF-36 physical component score and mental component score, respectively. We observed no ceiling and floor effects overall on the ACL-QOL questionnaire except the subdomain of “work-related concerns” (22.9%). The responsiveness demonstrated a dramatic effect size of 2.12 at the 16th week and large effect size of 0.97 at 2 years follow-up.

CONCLUSION: The Turkish version of the ACL-QOL questionnaire is a reproducible and responsive instrument that can be used in clinical studies.

KEYWORDS: ACL injury, knee, measurement properties, the ACL-QOL questionnaire

S43 COMPARISON BETWEEN STRENGTH OF MUSCLES ROTATING THE KNEE IN HEALTHY INDIVIDUALS AND PATIENTS ONE YEAR AFTER AN ACL RECONSTRUCTION

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OBJECTIVES: In this study we have made an attempt to establish torque value of the muscles rotating the knee of patients who had ruptured their ACLs during an amateur football practise on an artificial turf. In this study we presented biomechanical research on torques of muscles responsible for internal and external rotation of the lower leg. We presented a method whereby it is possible to measure the muscle strength before and after the ACL rupture but also during the process of rehabilitation and after its finish. The available literature on measurements of torque of the knee is quite extensive though it mainly describes torques of muscles flexing and extending the joint. In Polish literature there is scarcity of studies focused on torques of muscles rotating the knee. In foreign literature there is an increasing emphasis on the role of lower leg rotation, as the element greatly impacting, for instance, the position of the foot.

METHODS: The study presents results of 22 patients and 50 healthy individuals (not practising any particular sport regularly) being the control group. All patients had their ACLs reconstructed using the double-bundle technique. The material for the graft was obtained from the hamstrings. The aim was to measure the maximal torque of the muscles responsible for external and internal rotation of the knee (lower leg in a static state using a special device). The device allowed measurement of the torque of muscles rotating the lower leg in its axis by stabilizing the ankle with special emphasis on foot mounting (stabilization of footwear). The special device was connected to a PC with CPS/HMF software. The software enabled observation and recording of increase in the value of the torque until it reached its maximum. The measurements were taken in two knee positions: 30 degrees and 90 degrees flexion.

RESULTS: The result were analyzed statistically, means and SDs were calculated. Only right-legged subjects were included in the analysis. The Shapiro-Wilk test was used to test normality of the distribution. Some of the data did not have a normal distribution so in order to compare results of different groups a non-parametric Mann-Whitney U test was used. The groups differed significantly in terms of age ($p=0.001$), did not differ in terms of body height ($p=0.529$) or mass ($p=0.233$). Statistically significant differences ($p<0.001$) were marked by an asterix symbol (*). Each measurement of the left and right leg was also compared between the groups. The Kruskal-Wallis one-way analysis of variance by ranks was used and significant differences were those with $p<0.001$. When analyzing it has been noted that there was a statistically significant difference ($p<0.001$) between the torque value of muscles responsible for internal rotation (S40) when examining the right limb (after ACL reconstruction) in both groups. Significant differences were observed in all starting positions, as well as in both degrees of flexion – 30 and 90. Deficit of muscle strength on the right side – the injured one – when compared to the left was sometimes as high as 30%.

CONCLUSION: 1. Near 30% deficit of strength of muscles responsible for internal rotation of the knee indicates that the knee is rotationally unstable after a year from the surgery. 2. Based on the fact that using the hamstrings tendons – responsible for internal rotation of the knee – in order to reconstruct the ACL, poses a risk of rotational instability of the joint for as long as a year after the procedure, the rehabilitation protocol for such patients should be adjusted or completely changed.

KEYWORDS: Acl reconstruction, external - internal rotation, torques

S44 EFFECTS OF EXTRACORPOREAL SHOCK WAVE THERAPY ON SUBACROMIAL IMPINGEMENT SYNDROME

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OBJECTIVES: Purpose: The purpose of this study was to investigate the effects of extracorporeal shock wave therapy (ESWT) on pain, functional level of the upper extremity, and quality of life (QOL) in patients with subacromial impingement syndrome (SIS).

METHODS: Methods: This study involved 60 patients with SIS (40 females, 20 males) with a mean age of 52.58 ± 8.05 years. Before the first measurements, all patients were separated into an ESWT group (Group I, n = 30) and a control group (Group II, n = 30) according to a simple random table. Standard physiotherapy and medium-energy ESWT were applied to Group I, and standard physiotherapy and sham ESWT were applied to Group II for 4 weeks. Pain, functional level of the upper extremity and QOL were evaluated before and after treatment.

RESULTS: Results: After treatment, the visual analogue scale (VAS) score decreased, and Constant Shoulder Score, Shoulder Pain and Disability Index (SPADI) and SF-36 score increased statistically in both groups ($p < 0.05$). Similarly, there were no statistically significant differences in the VAS score, Constant Shoulder Score, and SPADI between Groups I and II after treatment ($p > 0.05$).

CONCLUSION: Conclusion: The results of our study show that applications of medium-energy ESWT at one session a week for 4 weeks had effects similar to those of standard physiotherapy and sham ESWT on shoulder pain, functional level of the upper extremity, and QOL in patients with SIS.

KEYWORDS: Keywords: ESWT, Subacromial Impingement, Pain, Function, QOL

S45 EFFECTS OF PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION AND MULLIGAN CONCEPTS ON THE PAIN, FUNCTIONAL LEVEL AND QUALITY OF LIFE ON SUBACROMIAL IMPINGEMENT SYNDROME

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OBJECTIVES: Objective: The purpose of the study was to investigate the effects of Proprioceptif Neuromuscular Facilitation (PNF) and Mulligan concepts on the pain, functional level and quality of life in the patients with subacromial impingement syndrome (SIS).

METHODS: Method: This study was carried out on 40 patients (26 females, 14 males), mean age $50,3 \pm 1,13$ years, who had been diagnosed as SIS admitted to the physical therapy and rehabilitation clinic. Before the beginning measurements all the patients were separated to 2 groups according to simple random table. Standard physical therapy and PNF were given to the Group I (n=20); and Standard physical therapy and Mulligan Concept were added to the Group II (n=20). In the evaluation process the demographic data of the patients, pain severity (VAS), functional level (Constant shoulder score) and quality of life (SF-36) measurement were done. The measurements were done before treatment, after treatment and 3 month later.

RESULTS: Before treatment, VAS score, Constant shoulder score and quality of life scores were similar and there were no statistically differences between two groups ($p > 0.05$). After treatment and 3 month later, VAS score decreased, Constant Shoulder score increased in both groups ($p < 0.05$). For Group I, SF-36 physical component and mental component scores increased after treatment ($p < 0.05$), but mental component score was not change in Group II ($p > 0.05$). However, there were no statistically significant differences in the VAS score, Constant Shoulder Score, and mental health score between Groups I and II after treatment and 3 month ($p > 0.05$).

CONCLUSION: The results of our study suggested that PNF and Mulligan concept could influence positively on shoulder pain, functional level of upper extremity and quality of life in patients with SIS and these effects were similar.

KEYWORDS: Mulligan concept, PNF, Shoulder pain, Subacromial impingement syndrome

S46 EFFECTS OF DIFFERENT ISOKINETIC TRAINING PROGRAMS ON HAMSTRING/QUADRICEPS RATIO AND PROPRIOCEPTION IN PATIENTS WITH PATELLOFEMORAL PAIN

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OBJECTIVES: To determine the effects of different isokinetic training programs; eccentric training, concentric training and combined (concentric-eccentric) training on quadriceps and hamstring muscle strength functional ratio (H/Qfunc) and knee proprioception in Patellofemoral Pain Syndrome (PFPS) patients.

METHODS: Thirty patients with unilateral PFPS were randomly assigned to 3 groups: concentric (CON, n=10) (31.23±3.12 years), eccentric (ECC, n=10) (33.73±2.21 years) and combined (combined, n=10) (30.41±4.35 years). In accordance with the progression principle, the training program was divided into 3 mesocycles, and the sets and angular speeds were increased in each mesocycle. All groups were treated for 8 weeks. To determine H/Qfunc, eccentric quadriceps and concentric hamstring peak torques were evaluated at 60°/sec with Biodex System 3 (Biodex® Corp., Shirley, NY, USA). 20° and 60° of knee flexion target angles were used to evaluate the knee proprioception. Peak torques and proprioception were evaluated before and 8-week after training. Repeated measure of ANOVA was used for the analysis.

RESULTS: There was a significant difference in H/Qfunc between groups at 60°/sec ($F= 9.048, p<0.001$). The mean improvement difference in ECC and CON-ECC groups were better than CON group. Proprioception improvement was found significant after 8-weeks training for both on 20° ($F=150.879, p<0.001$) and 60° ($F=247.561, p<0.001$) of knee flexion. The mean improvement was similar for 20° ($F=1.964, p=0.132$) and 60° ($F=0.493, p=0.711$) of knee flexion between the groups.

CONCLUSION: Isokinetic training with the emphasis on eccentric training of quadriceps muscle had a significant effect in H/Qfunc in PFPS patients. This is mostly based on the improvement in quadriceps eccentric peak torque and the improvement in balance between hamstring and quadriceps muscles. Eccentric and combined (concentric-eccentric) training is more appropriate model for strengthening compared to only concentric training.

S47 MRI EVALUATION OF PATELLA ALIGNMENT BEFORE AND AFTER ANATOMICAL RECONSTRUCTION OF ACL UNDERGOING UNIFIED REHABILITATION PROGRAMME INTRODUCED BY CMC PHYSICAL THERAPY TEAM

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OBJECTIVES: The aim of the study was to assess the impact of the functional rehabilitation on patella alignment with MRI imaging in patients who underwent the ACL reconstruction. The surgical approach with the use of patellar tendon graft is known to carry the risk of lowering patella height (patella baja), which, in turn, may lead to accelerated cartilage wear in patellofemoral joint.

METHODS: 30 patients after the anatomical reconstruction of ACL took part in this study (23 male, and 7 female, mean age = $28 \pm 10,6$ years). During the procedure a patellar tendon graft was used. The Insall-Salvati ratio measured with MRI (images taken pre-procedural, and 9 months after the surgery) was used for the assessment of patellar alignment. The measurements were taken by one radiology specialist on MRI scans in sagittal view in PD sequence. During the examination, patellar joint was in flexion (approx. 10 degrees). As the point of reference for patella's position ISR ratio was in the range of 0.8 - 1.2. All patients were operated on by the same team of surgeons and underwent an unified rehabilitation programme led by a team of selected physiotherapists. The main features of the programme were: an early muscle activation (second day after the procedure); mobilisation of the patella and tissues of the anterior compartment of the knee; weight bearing co-contraction exercises, and the sensomotoric training of the entire kinetic chain of the lower limb. The data recorded was statistically analysed using the Wilcoxon signed-rank test in order to establish parameters' changes within the study group.

RESULTS: The mean ISR value before the procedure was 0.84 ($\pm 0,1$), whereas 9 months after the surgery it was 0.85 ($\pm 0,1$). The results' analysis did not show any statistically significant changes between ISR values, Nine months after the procedure patella baja has not been observed in any of the evaluated patients.

CONCLUSION: • The functional rehabilitation programme designed by the CMC team had no negative impact on patella alignment, as no patella baja, which is a common complication after these kinds of surgeries, has been observed. • The applied functional rehabilitation programme enabled patients to keep the proper patella alignment, similar to the alignment recorded before the surgery.

KEYWORDS: Patella baja, MRI after ACL reconstruction, ACL rehabilitation protocol, insall-salvati

S48 INFLUENCE OF PECTORALIS MINOR MUSCLE AND UPPER TRAPEZ MUSCLE TIGHTNESS IN SCAPULAR DYSKINESIS

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OBJECTIVES: Alterations in scapular kinematics were found in individuals with shoulder problems compared with healthy individuals. These alterations in scapular kinematics such as changes in the normal position or any abnormal motion of the scapula during active motions are defined as "Scapular Dyskinesis (SD)". Relationship between tight muscles and scapular kinematics has been investigated. Pectoralis Minor Muscle Tightness (PMMT) effects scapular motion and make changes in scapular kinematics. Although there are some studies indicating a possible relationship between PMM or Upper Trapezius Muscle Tightness (UTMT) and SD, this relationship hasn't been investigated yet. The aim of this study was to evaluate the influence of PMMT and UTMT on SD in an asymptomatic population.

METHODS: One-hundred-eleven participants (mean age: 22.73 ± 3.45 years old, 222 arms, 42 Female-69 Male) were recruited. Subjects were eligible if they were ≥ 18 years of age, having active full shoulder motion and who has no health problem to hinder them from participate. Individuals with symptoms produced by cervical spine motion, impingement syndrome, frozen shoulder, shoulder instability and a history of shoulder fracture/surgery were excluded. Scapular Dyskinesis Test (SDT) was used to identify SD. PMMT was determined by Pectoralis Minor Index (PMI), UTMT by UTMT Test. Logistic regression analysis performed to ascertain the effects of PMMT and UTMT on the likelihood that participants have SD.

RESULTS: SD was identified in 62 arms (27.9%), PMMT in 32 arms (14.4%), and UTMT in 75 arms (33.8%) in total number of participants. PMMT was determined in 23 arms (37.1%) and UTMT in 39 arms (62.9%) in participants with SD. The logistic regression model was statistically significant, $\chi^2=65.472$, $p<.000$, $df= 2$. The model explained 36.8% (Nagelkerke R²) of the variance in SD and correctly classified 78.4% of cases. The Wald criterion demonstrated that both PMMT and UTMT made a significant contribution to prediction ($p<0.000$ for PMMT, $p<0.000$ for PMMT). People who have PMMT were 13.76 times more likely to exhibit SD than people who haven't. People who have UTMT were 7.59 times more likely to exhibit SD than people who haven't.

CONCLUSION: It was determined that people with PMMT and UTMT are more likely to exhibit SD than people who have normal muscle length in this asymptomatic population. Assessment of PMMT and UTMT could be included as a routine part of the scapula and scapular dyskinesia examination. This investigation should be repeated in symptomatic population who has shoulder problems. The effects of various interventions for lengthening these muscles in scapular dyskinesia, needs further research.

KEYWORDS: Asymptomatic population, Pectoralis Minor Muscle Tightness, Scapular Dyskinesis, Scapular kinematics, Upper Trapezius Muscle Tightness

S49 CORE STABILIZATION TRAINING AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

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OBJECTIVES: The aim of this study was to compare the effects of core stabilization exercises and conventional rehabilitation exercises after anterior cruciate ligament reconstruction in terms of knee joint laxity, knee muscle strength, postural stability and functional tests.

METHODS: Twenty eight patients reconstructed with hamstring tendon were included. Thirteen patients evaluated after a conventional rehabilitation and fifteen after a core stabilization programme. Single-limb postural stability assessment, isokinetic knee muscle strength test, instrumented ligament laxity test, functional hop tests were done to both groups after 16th week. Single-limb postural stability was assessed with stabilometer in both eyes open and eyes-closed conditions. Healthy legs were evaluated as internal controls.

RESULTS: Knee flexor and extensor strength indices were not different between groups ($p>.05$). H/Q strength ratio was different at 180 °/s ($p<.05$). Knee laxity was not different between groups ($p<.05$). There was no significant difference in hop distance and hop index between groups ($p>.05$). Conventional training group had deficit in overall stability score in eyes closed condition ($p>.05$), but core stabilization group did not have any postural stability deficit ($p>.05$).

CONCLUSION: Better H/Q strength ratio was seen in core stabilization group. Core stabilization exercises improved postural stability more than classic rehabilitation.

KEYWORDS: Core stability, knee laxity, hop performance

S50 DO BODY MASS, BODY MASS INDEX AND BODY FAT RATIO HAVE AN EFFECT ON PROPRIOCEPTION?

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OBJECTIVES: Proprioceptive sense plays important role of the protective reflex response against the harmful forces on the joint takes part in protection against the injuries. The load on the musculoskeletal system increases with higher body weights and joints become prone to injuries due to this increased load. The goal of this study was to investigate the relationship between the proprioceptive sense of the knee joint, mostly affected by loading, and the body weight, body mass index, and body fat ratio.

METHODS: 25 healthy people aged between 21 and 36 years included in the study. Body weights, body mass indexes (BMI), and body fat ratios of the individuals were measured. Proprioceptive sense in the knee joint is evaluated through the active joint position sense (A-JPS) assessments. The A-JPS of 50 knees of 25 individuals are evaluated at supine and load bearing squat with 30° and 90° of knee flexion. To measure A-JPS, targeted angle were shown using goniometer and digital photography has been taken. Then they return to the initial position and repeat the angle and the second image was captured. After three times repetitions, deviations from 30° and 90° were called mean angle errors. The angle error measurements were performed with specifically written programme MATLAB (Computer Aided Design software). Pearson and Spearman Correlation Analyses were used for statistics.

RESULTS: There was no correlation between the body weight and the proprioceptive error at supine and squat for 30° and 90° flexion angles ($p>0.05$). When the individuals has been grouped according to their BMI values thinnesses for ($BMI = 15-20 \text{ kg/m}^2$), normals for ($BMI = 20-25 \text{ kg/m}^2$), and overweightes for ($BMI = 25-30 \text{ kg/m}^2$) and the correlation between the BMI and proprioceptive error has been evaluated, there was no correlation for thinnesses and normals, for overweightes at 90° squat position a medium strength positive correlation is observed ($r=0.644$, $p=0.01$). For thinnesses and normals there is no correlation between the body fat ratio and the proprioceptive error. For the overweightes for 30° and 90° flexions at squat there is medium strength, strong positive correlations ($r_1=0.540$, $p=0.04$; $r_2=0.709$, $p=0.005$).

CONCLUSION: Consequently, especially for individuals with high BMI, at load bearing squat position for 90° flexion, the proprioceptive sense decreases. Increased body fat ratio negatively affects the proprioception at load bearing squat position for 30° and 90° flexion angles. According to these results being overweight can be considered as an disadvantage in terms of proprioceptive sense.

KEYWORDS: Body fat ratio, body mass index, body weight, joint position sense, proprioception,

S51 FUNCTIONAL, CLINICAL AND BIOMECHANICAL COMPARISON OF ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION WITH ANATOMICAL PLACEMENT OF TRANSTIBIAL TUNNEL PLACEMENT

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OBJECTIVES: Functional, clinical and biomechanical comparison of Anterior Cruciate Ligament reconstruction with anatomical placement of transtibial tunnel placement.

METHODS: 55 patients who can be adequately followed-up being divided into transtibial and anatomic groups. Lachman and Pivot-shift tests were performed to all patients. Laxity was measured by performing KT-1000 arthrometer test with 15,20 and 30 pounds power. Muscle strength were evaluated with Cybex II at 60 ° / sec, 240 ° / sec frequencies with flexion and extension peak torque. The maximum force values of untouched knee and the knee with surgery have been compared. Groups were evaluated by using IKDC knee ligament healing standard form, IKDC activity scale, modified Lysholm and Cincinnati evaluation forms. Return to work and return to fitness times of patients were compared. NCSS 2007 & PASS 2008 Statistical Software was used for statistical analysis.

RESULTS: Statistically, there was not any observed significant difference between Lachman and Pivot-shift levels. Positive value of Pivot-shift test and incidence of anterior translation in Lachman test were higher in the cases which were subjected to transtibial technique . There was not any statistically significant difference between Lysholm activity levels of cases. Lysholm activity levels of patients who underwent anatomic techniques significantly higher than transtibial technique. There was not any statistically significant difference between Modified Cincinnati activity levels. Modified Cincinnati activity levels of patients who were subjected anatomical techniques, are significantly higher than transtibial technique. There was not any statistically significant difference between post treatment IKDC activity levels. Intense activity after treatment rate of patient who were subjected to anatomic techniques was significantly higher than transtibial technique. There was a statistically significant differences between Cybex extension-flexion 60 measurements and Extension 240 measurements. Results of KT-1000 arthrometer testing anatomical technique was found to be stable than transtibial technique in antero-posterior translation of the knee kinematics at 20 and 30 pounds of forces. Return to sport times of patients who underwent transtibial technique, significantly higher than anatomic technique. There was not any statistically significant difference between return to work times of patients.

CONCLUSION: Previously published studies we observed that anatomic single band ACL reconstruction is better than transtibial ACL reconstruction by providing rotational and anterior translational stability control, in reducing the complications and it is more effective in returning normal functions after operation. As an important implication, a single-band anatomic ACL reconstruction's clinical, functional and laboratory results are found to be better than the transtibial technique.

KEYWORDS: Anterior cruciate ligament, anatomic, transtibial

S52 EFFECTS OF "THROWERS TEN" EXERCISE PROGRAM ON PAIN AND FUNCTION IN SHOULDER IMPINGEMENT SYNDROME: A PILOT STUDY

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OBJECTIVES: The purpose of this study was to examine the effects of Throwers Ten (T10) exercise program on pain and function in patients with shoulder impingement syndrome.

METHODS: Twenty subjects who were assigned by random sampling to an experimental group (n=10) to which Throwers Ten (T10) exercise and a control group (n=10) to which ordinary physical treatment were applied. A 100 mm visual analogue scale (VAS) was used to evaluate the degree of pain. The Disability of Arm, Hand, and Shoulder (DASH) score was used to assess the functions of the upper extremity. To determine the range of motion, a universal goniometer was used to measure range of shoulder motion. Wilcoxon test was employed to examine differences in pain and function of the experimental group and the control group before and after the treatment.

RESULTS: There were significant differences in function and pain of the experimental group ($p<0.05$). The therapeutic effect in the experimental and control groups revealed significant differences in flexion, abduction, VAS and the DASH ($p<0.05$); respectively.

CONCLUSION: The results of this study suggest that Throwers Ten (T10) exercise would be positively affected pain alleviation and functional recovery in shoulder impingement patients.

KEYWORDS: Shoulder, impingement syndrome, throwers ten, exercise, pain, function

S53 ARTHROSCOPIC REPAIR OF HORIZONTAL MENISCUS TEARS BY VERTICAL SUTURES WITH PACKING TECHNIQUE

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OBJECTIVES: The aim of this study is to report short term results of arthroscopic repair of horizontal meniscus tears by vertical sutures with packing technique

METHODS: Seventeen patients with an average age of 33 years were treated. Repair was performed to the patients that horizontal component of the tear extends into the capsular zone of the meniscus after excision of the unstable, central or flap components of the tears. The repair was performed after rasping and trephination, with vertical sutures that one leg of the suture is on the superior surface of the menisci and the other leg of the suture is under the inferior surface of the menisci by inside-out technique using the zone-specific curved canulas and all-inside technique using all inside meniscal devices. 9 medial and 8 lateral meniscus tears were treated.

RESULTS: Evaluation was performed by Lysholm functional knee scores. All patients were followed clinically and radiological by means of MRI to assess meniscus integrity at the repair site with an average follow-up of 12 months. MRI showed a healed meniscus at the repair sites in only five cases (29%) but with no further disruption of the tear components and osteoarthritic changes in all cases. Mean of Lysholm scores improved from 58 preoperatively to 92 postoperatively that was found statistically significant.

CONCLUSION: Repairing of horizontal meniscus tears that extend into capsular zone instead of resection improves activity level and prevents meniscal loss.

KEYWORDS: Meniscus tear, horizontal tear, repair

S54 FUNCTIONAL OUTCOMES OF PRIMARY ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION WITH TIBIALIS ANTERIOR ALLOGRAFT

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OBJECTIVES: Allografts have potential advantages in primary anterior cruciate ligament reconstruction (ACLR), including the absence of donor site morbidity, shorter operative times, improved cosmesis, and easier rehabilitation. There is limited and conflicting outcome data for ACLR with tibialis anterior allograft. The purpose of this study was to evaluate the functional outcomes of ACLR with tibialis anterior allograft.

METHODS: We retrospectively evaluated patients underwent ACLR using with tibialis anterior allograft between 2005 and 2013. Totally 12 patients who were performed suspensory fixation technique were included in this study (range: 25-43 years). Exclusion criteria included double bundle, bone tendon bone technique and revision surgery. Clinical outcomes were measured by subject part of International Knee Documentation Committee (IKDC) and Lysholm scores.

RESULTS: A significant increase was reported in all the clinical scores. In particular, the IKDC-subjective score increased from a basal value of 45.5 ± 12.7 to 84.3 ± 5.50 at the 12 months' evaluation ($p < 0.05$). The Lysholm score revealed a significant improvement from 49.7 ± 14.2 to 83.5 ± 20.5 at the 12 months' evaluation ($p < 0.05$).

CONCLUSION: ACLR with tibialis anterior allograft is an effective treatment for correcting loss of function and increasing quality of life.

KEYWORDS: Allograft, anterior cruciate ligament, functional outcome

S55 HOW DOES FUNCTIONAL SOCCER TRAINING ON UNEVEN GROUND AFFECT DYNAMIC STABILITY OF LOWER LIMBS IN YOUNG SOCCER PLAYERS

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OBJECTIVES: The aim of the study was to assess the level of lower limbs' stability under dynamic conditions in soccer players before and after the preparatory period. The results of young players were compared with the control group's records. The analysis included, both, the dominant (the one kicking the ball) and the non-dominant (supporting) limb.

METHODS: 13 players from AGAPE Soccer Academy in Białogóra (year 2002), participated in this study. The control group were 18 young, healthy, and active volunteers (14 male, and 4 female; mean age = 21,4±1,2 years). The dynamic stabilography was recorded on Biodex Balance System device. For data analysis, the bending dispersion in the medial/lateral plane, and anterior/posterior plane, along with the overall stability index (OSI) were tested. The measurements were taken in single-leg stance on the right and left leg respectively. Each testing included 3 repetitions in 30 seconds intervals on the platform's second level of testing. The preliminary study was performed before the beginning of the season's preparatory period. During the preparatory period, which lasted 16 weeks, the motor activity training programme was completed (90 minutes, once a week). The programme included elements such as: functional soccer training and stabilization training on an unstable ground, core stability training, dynamic stability exercises, and lower limbs coordination and strength training. After the preparatory period, the health examinations were performed. Test results were statistically analysed using the Wilcoxon signed-rank test in order to establish parameters' changes within the study group, and the U-Mann-Whitney test was applied in order to estimate the variances between the study and control groups. The statistical significance threshold was $p \leq 0,05$.

RESULTS: The study showed a significant statistical improvement of stability parameters expressed by the overall stability index (OSI) and A/P stability index for the supporting limb after the preparatory period, during which a stability and proprioception training was completed. The significance of these results is even greater when the parallel substantial increase of the physical body height of these young players is taken into account (the taller the player is, the harder it is for him to keep the balance). The players' tests results are, also, statistically lower than the control group's data. That, in turn, means that the players had better stability in comparison to the control group. This co-dependence regarding the overall stability was mainly affected by the A/P stability indexes taken in a sagittal plane. Also, no new injuries were recorded within the young players group.

CONCLUSION: 1. The exercised functional training significantly improved stability results of the supporting limb among the young players. 2. The results encourage to continue the study, and, in the later stage, check whether there is an actual relationship between the dynamic stability results and sports achievements combined with the frequency of injuries.

KEYWORDS: Biodex Balance System, stabilization, proprioception, soccer training, functional training

S56 COMPARİSON OF ANKLE PROPRIOCEPTION BETWEEN BLİND AND HEALTHY ATHLETES

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OBJECTIVES: The positive effect of the visual sensation on the proprioceptive quality is well known. Although other senses of the congenital blind individuals have been proven to be increased more than healthy ones, there has been no data about the proprioceptive quality of congenital blind persons. The aim of this study is to determine the quality of ankle proprioception in congenital blind athletes.

METHODS: 15 congenital blind athletes (10 males and 5 females) with a mean age of 24 ± 2.9 (ranging from 20 to 29), and 15 healthy athletes (10 males and 5 females) with a mean age of 24.6 ± 3.05 (ranging from 20 to 29), from the same athletic department, were included in the study. Proprioception was evaluated by using the technique of joint position sense, and absolut errors during the reproduction of six target angles (plantar flexion 100, dorsiflexion 50, inversion 100 and 200, eversion 100 and 200) were detected in dominant and nondominant ankles of both groups. Athletes were measured both eyes open and closed. Statistical analysis was done by using Mann-Whitney U and Wilcoxon Signed Ranks tests.

RESULTS: When dominant extremities were compared while eyes open, there was only a difference in 50 dorsiflexion measurements statistically in favor of blind ones ($p < 0.05$). When dominant extremities were compared while eyes closed, blind athletes got less wrong in four of the six target angles statistically ($p < 0.01$), when non-dominant extremities were compared while eyes closed, blind athletes got less wrong in all angles statistically ($p < 0.01$). The ankle proprioception of the blind athletes were better then the normal athletes. The ankle propriceptions of the normal athletes further deteriorated when their eyes were closed.

CONCLUSION: We found that the ankle proprioceptions of congenital blind athletes were better than the normal athletes. So additional closed-eyes exercises can help to can help to reach a high proprioceptive level of athletes in a normal season which in terms may decrease accidental traumas.

KEYWORDS: Ankle, proprioception, disabled, blind, athletes

SS7 PROGNOSTIC CRITERIA IN TRAUMATIC KNEE DISLOCATIONS: A RETROSPECTIVE STUDY OF 42 CASES

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İSTANBUL ÜNİVERSİTESİ, İSTANBUL TIP FAKÜLTESİ, ORTOPEDİ VE TRAVMATOLOJİ ANABİLİM DALI, İSTANBUL, TÜRKİYE

OBJECTIVES: Traumatic knee dislocation (TKD) is an orthopaedic emergency, which may include not only knee joint's structures, but also neurovascular tissues. While such a major trauma can easily be expected to cause significant impairment in knee joint's functions in long term, individual impact of these injured structures on the outcome needs to be clarified. This study questions the effect of injury type and the effect of the presence of neurovascular injuries on the functional outcome after TKD treatment in a level 3 trauma center.

METHODS: Between 1997 and 2013, 42 knee joints of 42 patients (mean age 34; range 18 – 80) were diagnosed with TKD and treated accordingly. Patients were reviewed after a mean period of 116 months (range 12 – 204), retrospectively. The type of knee injury was classified according to Schenck's criteria, accompanying injuries and emergency and elective surgical interventions were recorded. Patients were evaluated radiographically and clinically on the follow-up examination. Clinical outcome parameters were KSS, Lysholm-Tegner, IKDC and SF-36 scores, grouping patients as either "good or excellent" or "poor or fair". Cut-off values for this stratification was 70 points or higher for KSS, 80 or higher for Tegner-Lysholm and 70 for IKDC score. Effect of injury patterns on the clinical outcome was investigated using frequency tables and Chi-Square test for categorical data and Anova one-way analysis or Kruskal-Wallis test for numerical results.

RESULTS: According to Schenck's classification, 6 knee joints (13.9%) were classified as KDI, 3 joints (6.9%) as KDII, 10 joints (23.2%) as KDIII, 19 joints (44.1%) as KDIV and 3 (6.9%) as KDV. An arterial injury was diagnosed in 11 cases (25.5%), fibular nerve injury in 12 cases (27.9%) and tibial nerve injury in 2 cases (4.6%). An external fixator was placed in 20 patients (46.5%) in the emergency setting. Vascular repair was performed in XX patients, of which four (9.3%) also received a fasciotomy with a diagnosis of compartment syndrome. Fibular nerve was repaired in YY joints. ACL reconstruction was performed in 22 joints, PCL in 10, MCL repair in 26, LCL repair or reconstruction in 35 and PLC repair or reconstruction in 10. In the final follow-up examination, mean ROM was calculated as 116 degrees, mean KSS-1 score as 79, mean KSS-2 score as 78; mean Tegner-Lysholm score as 80, mean IKDC score as 72, mean SF-36 MCS as 50 and mean SF-36 PCS as 48. Both arterial and fibular nerve injuries were associated with a poor outcome using the IKDC, KSS 1-2 and Tegner-Lysholm scores ($p<0.01$). A vascular injury was related to a significantly lower ROM degree ($p<0.05$) in the final follow-up, as well as the fibular nerve damage ($p<0.05$). The severity of knee injury (Schenck's grade) was inversely correlated with ROM degrees ($P<0.05$). SF-36 life quality scores were significantly better in KDI group when compared to the remaining four groups ($p=0.02$), while no difference was observed between groups KDII - KDV. Incidence of neurovascular damage was not increased with the severity of the Schenck's grade.

CONCLUSION: A Schenck's grade of KDII or higher and presence of arterial or nerve injury is correlated with poor outcome in traumatic knee dislocation. The incidence of neurovascular injury was not significantly related Schenck's grade.

KEYWORDS: Traumatic knee dislocation, Prognostic criteria, Neurovascular injury.

S58 EKLEM İÇİ KIRIK SİNOVYAL SIVININ LUBRİKAN İÇERİĞİNİ DEĞİŞTİRİYOR MU?

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AMAÇ: Eklem içi kırıklarda sinovyal sıvının biyokimyasal kompozisyonunun değişimi konusunda erken dönem çalışmaları mevcuttur. Bununla birlikte sinovyal sıvıda uzun dönemde gözlenen değişimler ve bunun hasta prognozuna etkisi konusunda bir çalışma literatürde bulunmamaktadır. Biz bu çalışmamızda plato tibia kırığı nedeniyle tedavi edilen hastaların eklem sıvılarını biyokimyasal değişimlerini ortaya koymayı hedefledik.

YÖNTEM: Lokal etik kurul onamı sonrası çalışmamıza plato tibia kırığı geçirmiş, en az 12 ay takipli, çalışmaya katılmak isteyen 48 hasta dahil edildi. Bu hastalardan kırık dizinden sinovyal örnekleme yapılabilen 16 hastamızın sonuçları değerlendirmeye alındı. Tüm hastalarımızın önce kırık sonra da sağlam dizine steril olarak 20 gauge iğne ile girilerek 2 cc eklem sıvısı aspire edildi. Onaltı hastanın kırık dizinden eklem aspirasyonu yapıldı ama bunlardan sadece 10'unun sağlam dizinden de örnekleme yapılabilirdi. Alınan eklem sıvılarında Hyaluronik asit, TNF-alfa, Interleukin-1B, Interleukin-6, Proteoglikan-4 düzeyleri bakıldı. Tüm hastalarımızın kırık dizlerine BT çekilerek eklem yüzeyindeki deplasman kontrol edildi.

BULGULAR: Hastalardan 4'ü erkek 12'si bayandı. Yaş ortalaması 45,1 (32-57), ortalama takip süresi 31 (12-66) aydı. BT'de eklem yüzeyine göre çökme ortalma 39 (13-65) mm olarak ölçüldü. Biyokimyasal analizlerde Hyaluronik asit, TNF-alfa, Interleukin-1B, Interleukin-6, Proteoglikan-4 düzeyleri ve BT tetkikleriyle kırık deplasman miktarı değerlendirildi. Ayrıca, hasta yaşı, cinsiyet, postoperatif süre, kırık tipi parametreleri açısından karşılaştırma Spearman korelasyon testi ile yapıldı. Bu parametreler arasında istatistiksel olarak anlamlı fark saptanmadı ($p>0,05$). Sağlam taraftan örnekleme yapılamayan 6 hasta çıkarılıp her iki dizden örnekleme yapılabilen 10 hastanın değerleri paired Wilcoxon testi ile kıyaslandığında da benzer şekilde kırık ve sağlam taraflar arasında eklem sıvısı kompozisyonu açısından anlamlı fark saptanmadı ($p>0,05$).

SONUÇ: Tibial plato kırığı sonrası, lubrikasyon için önemli olan Proteoglikan-4 seviyesi uzun dönemde sağlam dize kıyasla anlamlı bir değişim göstermemektedir. Literatürde akut evrede düştüğü bildirilen, eklem sinovyal sıvısının esas lubrikan maddelerinden olan Hyaluronik asit değerleri de sağlam dize kıyasla uzun dönemde anlamlı değişim göstermemektedir. Artrozla ilişkili mediatörler olan IL-1B ve IL-6 değerleri de kırık dizde daha fazla değişir. Yapılan çalışmalar bu parametrelerin akut dönemde değişim gösterdiğini belirtmesine rağmen bizim çalışmamız uzun dönemde bu parametrelerin sağlam dize göre anlamlı fark göstermediğini ortaya koydu. Post travmatik artroz gelişiminde bu parametrelerin sorumlu olamayacağını düşündürten çalışmamızın daha geniş hasta serilerinde yapılması ile kanıtı dayalı sonuçlar elde edilebilecektir.

S59 A NEW PARAMETER FOR UNDERSTANDING PATELLOFEMORAL PAIN: ΔQ

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OBJECTIVES: Q-angle measurement procedure have not been well standardised. There is a lack of consensus about subject position and knee flexion angle while measuring the Q-angle. Moreover Q-angle value which obtained in a single position is a static value and gives an information about the subject's current position. The aim of this study is to obtain a more significant parameter which includes different postures (supine, standing, sitting) and different knee flexion angles instead of a single Q-angle in a fixed position. At the same time this parameter must be functional and dynamic, not a static value like Q-angle. We named this parameter as ΔQ .

METHODS: Our study was applied on case and control groups. All subjects in both groups were male. Case group was consisted of 14 subjects who had patellofemoral pain. Control group was consisted of 14 subjects who had normal knees and normal lower extremities with no reported knee problems. We obtained 3 different Q-angle values and 3 different ΔQ values for each subject in both groups. Pearson correlation analysis was used for investigation of continuous variables in normal distribution, Spearman correlation analysis was used in abnormal distribution. t test was used in the comparison of values. Logistic regression analysis (forward conditional mod) was used for detecting of determinants of pain.

RESULTS: ΔQ_1 s of both groups were found as the only statistical significant predictive value for patellofemoral pain.

CONCLUSION: There is not an agreement about a standardised q-angle measurement procedure in the literature. Moreover, present procedures provide information about a single and fixed position. In this situation Q-angles which obtained in these fixed positions are static values. We think that we can overcome these problems with this new value. ΔQ contains multiple q-angles and gives information about all. Also it is a dynamic value for being oriented to position change. ΔQ is an useful indicator for evaluating patellofemoral pain.

KEYWORDS: Q-angle, patellofemoral pain, ΔQ

S60 OUR TECHNIQUE FOR MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION IN SKELETALLY IMMATURE PATIENTS

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OBJECTIVES: To evaluate the clinical outcome after medial patellofemoral ligament (MPFL) reconstruction for patellofemoral instability in skeletally immature patients.

METHODS: Study participants were 8 patients (median age, 10 years; range, 5-14 and one male , others female) who had suffered from persistent patellofemoral instability. Our technique that preserves femoral and patellar insertion anatomy of MPFL using a free semitendinosus autograft together with tenodesis to the adductor magnus tendon sparing to open physis of distal femur on the patellar attachment of MPFL. The clinical results were evaluated preoperatively and the final follow-up period using Kujala patellofemoral score. Patellar shift, tilt and height were defined preoperatively and latest follow-up on plain radiographs.

RESULTS: At average 42 months follow-up (range, 16 to 56), %80 of patients were satisfied with the treatment. Redislocation or instability symptoms were occurred in two patients at follow-up. There were no apprehension or redislocation at the other six patients. there was significant improvement ($p<0.05$) in Kujala score (from 36 to 77). Patellar shift, tilt decreased to anatomic values in six patients but patella alta persisted .

CONCLUSION: The result of this study show that MPFL reconstruction with our technique seems to be an effective treatment for recurrent and habitual patellofemoral dislocation in skeletally immature patients, leading to significant increases in stability and functionality.

KEYWORDS: Patellofemoral joint, instability, immature patient

S61 EFFECTS OF BODY MASS INDEX, INFRAPATELLAR FAT PAD VOLUME AND AGE ON PATELLAR CARTILAGE DEFECT

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OBJECTIVES: The aim of this study was to evaluate the associations between patellar cartilage defects and body mass index (BMI), infrapatellar fat pad (IPFP) volume and age.

METHODS: 100 patients who met the inclusion criteria and were aged 18 to 60, were evaluated retrospectively. The BMI's of the participants were evaluated according to their weight and height. For detecting and measuring patellar cartilage defects, axial sequences were used and sagittal sequences for were used to evaluate IPFP volumes in MRI.

RESULTS: In total, 40 patients had patellar cartilage defects. In this group, age and BMI were higher in both sexes when compared with the controls ($P<0.05$). The IPFP volume was lower in the group with the patellar cartilage defect when compared with the control group ($P<0.05$). The IPFP volume was statistically significantly lower in women ($P<0.05$).

CONCLUSION: Patellar cartilage defect was found to be related to age and BMI. In women, the decrease in IPFP volume seems to be one of the causative factors for patellar cartilage defect. The effect of IPFP volume on articular cartilage in healthy people is unknown. Further studies focusing on patellofemoral cartilage damage are needed to reveal this association.

KEYWORDS: Obesity, adipocyte, cartilage defects, infrapatellar fat pad, magnetic resonance imaging

S62 TALUS OSTEOKONDRAL LEZYONLARININ CERRAHİ TEDAVİSİNDE ARTROSKOPİK DEBRİDMAN VE MİKROKIRIK UYGULAMASININ ORTA, UZUN DÖNEM KLİNİK VE FONKSİYONEL SONUÇLARI

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AMAÇ: Talus osteokondral lezyonları (TOL) genellikle genç aktif erişkin hastalarda görülen, ayak bileğinde ağrı, şişlik ve kilitlenme gibi semptomlar yaratan klinik durumdur. Tedavide konservatif tedavi seçenekleri (NSAİİ, yükten kurtarma, hyaluronik asit..) dışında debridman, kemik iliği stimülasyonu (drilleme, mikrokirik), mosaikplasti, olog kondrosit implantasyonu, osteokondral allogreft tedavileri uygulanmaktadır. Debridman ve mikrokirik yüksek aktivite beklentisi olmayan 40 yaş altı hastalarda sık tercih edilen bir tedavi yöntemidir. Çalışmamızın amacı artroskopik debridman ve mikrokirik uygulanan talus osteokondral lezyonlarının orta/uzun dönem sonuçlarının değerlendirilmesidir.

YÖNTEM: 1998 Kasım ayı ile 2013 Ocak arasında kliniğimizde TOL nedeniyle opere edilen hastalar retrospektif olarak tarandı. Artroskopik cerrahi uygulanmış olan 124 hastadan, son kontrollerine gelen 82 hasta çalışmaya dahil edildi. Hastaların lezyonları Berndt ve Harty'nin radyolojik sınıflamasına göre sınıflandırıldı. Hastaların son kontrolünde ayak bileği hareket açıklıkları, ayakta basarak çekilmiş grafilerindeki artroz evreleri ve şikayetleri not edildi. Hastalar klinik ve fonksiyonel açıdan preop ve postop AOFAS skoru ile değerlendirildi.

BULGULAR: Çalışmaya dahil edilen 82 hastanın yaş ortalaması 35,9 (10-69) 'du. Hastaların 48'i erkek 34'si kadın, ortalama takip süremiz 97,5 (15-197) aydı. Lezyon 45 hastada solda 37 hastada sağda iken, lezyonların 57' si talus medial 18 si lateral 7 si santral domda idi. Ortalama lezyon boyutu 1,69 cm² idi.(0,25-5cm²). Takakura tarafından tarif edilen ayak bileği osteoartrit sınıflamasına göre ayak bileği osteoartrit derecesi preop ortalama grade 0,32 iken.(0-2) ; son kontrolde 0,95 (0-3) olduğu tespit edilmiştir. Hastaların son kontrollerinde 5 hastada grade 3 , 7 hastada grade 2 artroz olduğu görüldü. Hastaların preoperatif grafileri ile yapılan karşılaştırmada ise 27 hastada (%32.9) ise artroz derecesinde 1 seviye artış olduğu 3 hastada ise bu artışın 2 derece olduğu görülmüştür. Hastaların preoperatif ortalama AOFAS skorlarının 72,7'den (56-80) son kontrollerinde 85,5 (41-100) yükseldiği görülmüştür. (p< 0,05) 4 hastada ise AOFAS skorlarının preoperatif değere göre daha düşük olduğu tespit edilmiştir. Hastaların son kontrollerinde 35 hastanın şikayeti yoktu. 13 hastada zorlu dorsifleksiyonla ağrı, 19 hastada ise 2 saatten uzun süreli yürüyüş yada fiziksel aktivite sonrasında ağrı şikayeti mevcuttu.

SONUÇ: Çalışmanın sonucunda talus osteokondral lezyonlarının cerrahi tedavisinde artroskopik debridman ve mikrokirik uygulamasının orta - uzun dönem klinik ve fonksiyonel sonuçlarının yüzgüldürücü olduğu sonucuna v5do

S63 ARTHROSCOPIC ASSISTED DECOMPRESSION AND BONE GRAFT TRANSPORTATION IN AVASCULAR NECROSIS OF THE FEMORAL HEAD - A PRELIMINARY REPORT OF A NEW SURGICAL TECHNIQUE

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OBJECTIVES: Hip arthroscopy in avascular necrosis (AVN) of the femoral head (FH) allows direct visualization of the joint, aids in the accurate location of the lesion and staging of the disease. We describe a new surgical technique where bone cylinders harvested from the iliac crest were with the guidance of hip arthroscopy and bone endoscopy (meduloscopy) transported with accuracy in the necrotic area of the femoral head.

METHODS: We report 4 cases (mean age 36, all male) with idiopathic avascular necrosis of the FH (Steinberg stage III). The patients were placed supine on a traction table. Initially a quick hip arthroscopy was done to assess the sphericity of the femoral head and the presence of cartilage degeneration that might change the classification. Traction was released but the 70 camera remained in the joint for its continuing evaluation thru out the operation. Under image-intensifier (I.I.) control a guide wire was placed in the necrotic area. With the use of knee osteochondral autograft transfer system (OATS) for mosaicplasty instrumentation four bone cylinders grafts (6.5mm diameter by 2 cm length) were harvested from the iliac crest. The guide wire with the guidance of I.I. and the arthroscopic visualization of the joint was over-drilled to accept the grafts. The positioning of the camera within the FH (meduloscopy) clearly visualized the necrotic white-vascular area and subchondral plate ensuring the accurate positioning of the canal. The graft was slowly impacted up the FH canal. All patients offloaded the hip for a minimum of two months. They underwent MRI scan evaluation at 2, 6, 12 months. At 6 months a 3-D CT further evaluated the sphericity of the femoral head.

RESULTS: In all cases there was evidence of re-vascularization of the necrotic area and maintenance of the sphericity of the femoral head. All patients have returned to work. No cases have been revised so far to total hip replacement.

CONCLUSION: Our described technique ensures the accurate positioning of the graft which in its cylindrical form acts as biologic scaffold that supports the necrotic area of the FH. The preliminary results (minimum follow-up 12 months) of the technique are encouraging.

KEYWORDS: Hip arthroscopy, Avascular Necrosis, osteonecrosis, Graft

S64 FUNCTIONAL OUTCOMES AFTER ARTHROSCOPIC CELL-FREE OSTEOCHONDRAL SCAFFOLD SURGERY

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OBJECTIVES: Treatment of osteochondral lesions of the talus is still controversial. Arthroscopic cell-free osteochondral scaffold technique used in knee surgery although experience with the use in the treatment of ankle is not enough. The purpose of this study was to investigate the functional outcomes after arthroscopic cell-free osteochondral scaffold technique in talus osteochondral lesion at the end of 1 year.

METHODS: Total of 15 patients (7 women, 8 men) undergone arthroscopic cell-free osteochondral scaffold surgery due to osteochondral lesion of the talus were included in this study (mean age; 41.6 ± 15.7 years; range 17-67). At the end of the first year range of motion, muscle strength, ankle function and quality of life were assessed. Ankle range of motions were evaluated with universal goniometer and ankle muscle strength were measured with digital dynamometer (Baseline[®]). Ankle functions were determined with the American Orthopedic Foot-Ankle society score (AOFAS). Quality of life was assessed with the Nottingham Health Profile.

RESULTS: There was no statistical difference between the operated side and the other side in the ankle joint range of motion ($p > 0.05$). Ankle muscle strength was not different between the operated side and the other side except ankle dorsiflexion muscle strength ($p > 0.05$). The American Orthopedic Foot-Ankle society score (AOFAS) revealed a significant improvement from 54 ± 6.4 to 81 ± 9.8 at the 12 months' evaluation. Total score of Nottingham Health Profile improved from 47.6 ± 20.3 to 29.9 ± 26.7 .

CONCLUSION: Arthroscopic cell-free osteochondral scaffold procedure appears to be an effective treatment with increasing the functional and quality of life, particularly in localized disease of the ankle joint such as talus osteochondral lesion.

KEYWORDS: Ankle, ankle surgery, arthroscopy, functional outcomes,

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