

arthroscopically with a rigorous standardized aftercare in a plaster cast and with physiotherapy. The mean follow-up period was 16 months (9-18 months). During the follow-up examinations, the orthopaedic knee score (OAK) of the Swiss Society of Orthopaedics (SGO) was assessed. To improve objectivity, one experienced investigator documented the a.-p. drawer with the "Kneelax3" machine in comparison to the uninjured contralateral side.

Results: 21 Patients injured their ACL during sport activities and 1 while at work. The mean time from injury to the operation was 15,5 days (5-37 days). We found additional meniscus injuries in 6 patients. The patients were hospitalized for a of mean 1,5 nights (1-3 nights). The average return-to-work time was 8,8 weeks (2-20). We had 2 patients lost to follow-up and 5 patients required revision (4 ACL reconstructions, 1 mobilisation after stiffness). Orthopaedic knee score showed a mean of 91,5 points out of 100 (78-98 points) and the a.-p. drawer difference compared to the uninjured side was a mean of 2,86 mm (0,99-5,90 mm).

Conclusions: The "Healing response" is an easy procedure to carry out without any additional iatrogenic trauma and is minimally invasive compared to reconstruction methods. However, our revision rate of 23% is relative high. Thus it has to be discussed if this procedure is the best treatment approach in for highly active young patients. In considering other investigations with elderly study groups and better results, it appears that the use of the "healing response" procedure is most appropriate for patients with an lower level of activity and higher age.

Primary Repair with Healing Stimulation Technique for Partial Tears of the Anterior Cruciate Ligament (SS-14). *Alberto Gobbi, MD, Ramces Francisco, MD, Ariel Sandoval, MD, Paolo Arrigoni, MD*

Purpose: We analyzed the functional outcome of acute treatment for partial ACL tears involving either the anteromedial (AM) or the posterolateral (PL) bundle using suture-repair combined with a bone marrow stimulation (BMS) technique (microperforation). We hypothesized that knee stability could be restored and good functional outcome could be obtained with a simple primary repair technique.

Methods: From January 2003 to December 2005, thirteen patients (mean age: 20 years) with partial ACL rupture underwent acute primary ACL repair of the torn ligament. The senior author performed all the surgeries within 2 weeks from injury and all the patients were required to complete a specific rehabilitation protocol. Parameters analysed included the standard knee scales

(IKDC, Noyes, Lysholm and Tegner), SANE Score, Computer Knee Laxity Analysis and Deep Flexion Tests. Seven (7) patients had second look arthroscopy after signing an informed consent. The rest conceded to have a post-operative MRI for the re-evaluation of the repaired ACL.

Results: Preliminary Results revealed an average Lysholm score of 84%, Tegner score of 7, Noyes Score of 85% and Subjective score of 76.25%. IKDC score demonstrated that 60% of the patients had normal knee functions while 40% were nearly normal. Pivot shift test was negative and 80% of the patients had less than 3mm anteroposterior laxity.

Conclusions: Based on the preliminary results, primary ACL repair with BMS can lead to favourable results. However, further evaluation is recommended at longer follow-up to validate these findings.

Accuracy of Knee MRI to Evaluate Osteochondral Lesions (SS-15). *Pablo Adelino Narbona, MD, Guillermo Allende, MD, Julio Masquijo, MD, Luis Vazquez, MD*

Purpose: Determine the MRI diagnostic precision for assessment of osteochondral knee defects, and the concordance between the grading of such lesions by arthroscopy with the Density Prototonic Fat Sat (DP Fat Sat) MRI.

Type of study: Transversal with prospective data.

Material and methods: Fifty knees of 49 patients (divided into 6 regions) were studied. Relationship between surface of the lesions in mm² using a coefficient of variation $\pm 2\text{mm}^2$, and the grading of the lesion according to Outerbridge modify system, using arthroscopy as a standard pattern. The Wilcoxon test was used for comparison between medians with the significance of 95% confidence. To evaluate grading concordance was used, the kappa coefficient.

Results: Osteochondral lesions were found in 48% of the cases (24/50). Comparing such data with the arthroscopic findings, we found: sensibility 79.4%, specificity 99.3% and accuracy of 97%. Concerning the lesion size, the 53% of the small ones (0-20mm²), 92% of the moderate (20-100mm²) and the 100% of the large lesion (>100mm²) were underestimated by MRI. The average of underestimation was 37,2% (p < 0,0004). Concordance of 70% with kappa coefficient (0.80) was obtained in relationship with grading of the lesions. Grade IV lesions presented the largest percentage of coincidence (77%).

Conclusions: The DP Fat Sat MRI possesses a sensibility and specificity similar to those reported with

specific cartilage sequences and high concordance in the grading of osteochondral lesions. MRI presents poor precision to evaluate the surface of osteochondral lesions.

Arthroscopic Management of Femoro-Acetabular Impingement: Early Outcomes Measures (SS-16).
Christopher M. Larson, MD, Giveans Marc, MD

Summary: There is little in the literature regarding outcomes measures after arthroscopic management of femoro-acetabular impingement. This study presents the early results (up to 2 years) of arthroscopic management of femoro-acetabular impingement. Treatment included proximal femoral osteoplasty and or acetabular rim trimming in conjunction with labral debridement or repair. Outcomes measures used included the “impingement” sign, modified Harris Hip scoring, SF-12 scoring, and visual analog pain scoring.

Purpose: Femoro-acetabular Impingement (FAI) is an increasingly recognized disorder resulting in hip pain and development of osteoarthritis in young and middle aged individuals. Treatment of this disorder has traditionally been managed with open dislocation and decompression of the femoral head neck junction and or acetabulum. More recently arthroscopic management has been described, but little with respect to valid outcomes measures is reported.

Methods: Between 2004 and 2006, 45 patients (46 hips) with radiographically documented FAI were treated with hip arthroscopy, management of intra-articular pathology, labral debridement vs repair, proximal femoral osteoplasty and or acetabular rim trimming. Ninety-five percent of patients had temporary pain relief after preoperative intra-articular anesthetic injection. Outcomes were measured with evaluation of the “Impingement” sign, Modified Harris Hip (HSS), SF-12, and visual analog pain scoring (VAS) preoperatively, and at 6 weeks, 3 months, 6 months, and yearly thereafter.

Results: There were 37 males and 8 females with up to 2 year follow-up. The mean age was 38 years. 100% had associated labral tears, 96% had chondral pathology, 17% had ligamentum teres lesions, 13% had loose bodies. Cam impingement was identified in 33 patients, pincer impingement in 29 patients, and both types were noted in 17 patients. Full thickness chondral defects requiring microfracture were identified on the acetabulum in 28% and femoral head in 2%. Modified HSS ($p<0.001$), SF-12 ($p=0.015$), and VAS ($p<0.001$) scores were significantly improved at most recent follow up. The “impingement” sign was positive in all patients preoperatively. Resolution or improvement of the “im-

pingement” sign was noted in 85% of patients ($p<0.001$). Complications included heterotopic bone formation (1), lateral femoral cutaneous nerve neuropraxia (1), and partial sciatic nerve neuropraxia (1) which resolved. No patient went on to repeat arthroscopy or total hip arthroplasty at early follow-up.

Conclusions: Arthroscopic management of patients with FAI results in significant improvement in outcomes measures and the “impingement” sign at early term follow-up. Alteration in the natural progression to osteoarthritis and sustained pain relief as a result of arthroscopic management of FAI remains to be seen.

Early Results of Labral Repair (SS-17). *Sophia L. Hines, BS, Marc J. Philippon, MD, David Kupper-Smith, MD, R. Brian Maxwell, MD*

Summary: The purpose of this study is to report early results of function and patient satisfaction in labral repair patients. Patients experienced improvement in function at least 6 months postoperatively. Early results demonstrate that arthroscopic labral repair for the treatment of labral tears lead to improved level of function and high patient satisfaction. This reveals the potential of labral repair in pain management and joint preservation. This may be important when developing a standard of surgical labral tear treatment.

Introduction: Previous arthroscopic intervention has included labral debridement, excision and repair. Studies suggest that debridement and excision, while alleviating immediate pain, compromise labral structure and function, leading to narrowed joint space and early arthrosis. It is believed that arthroscopic labral repair restores proper labral structure therefore preserving its physiological function. Little has been reported on labral repair postoperatively. The purpose of this study is to report early results of function and patient satisfaction in labral repair patients.

Methods: 52 patients underwent arthroscopic labral repair (26 male, 26 female). Patients completed subjective questionnaires preoperatively and at least 6 months post-operatively. Data was collected from the Hip Outcome Score (HOS), the Non-Arthritic Hip Score (NAH), and the Modified Harris Hip Score (MHH). Patient Satisfaction was also collected (1=unsatisfied, 10=very satisfied).

Results: The average postoperative follow-up was 9 months (range 6 to 15). Average age at follow-up was 34 (range 13 to 50). Postoperatively, the HOS (ADL and SPORT), NAH, and MHH all experienced significant improvement ($p<0.05$). HOS (SPORT) had the greatest improvement of 31 points increasing to 74. HOS (ADL)