patient population, re-rupture (3.3%) or other complications (11.8%) can be anticipated with 99.6% return to military duty after primary biceps repair.

Arthroscopic Ankle Arthrodesis: A Long-Term Follow-up Study

SS-46

April 15, 2:20 PM

Christopher Jones, M.D., Presenting Author
Richard Ferkel, M.D.
Greg Applegate, M.D.
Eric Wong, M.D.

Introduction: Despite advances in arthroplasty techniques, ankle arthrodesis remains the gold standard for the treatment of degenerative ankle disease. Following tibiotalar fusion, there is concern of development of arthritis in the adjacent hindfoot joints as well as deterioration in functional outcomes secondary to a loss of motion at the ankle joint. We performed a long-term study to address these concerns.
Methods: Between 1993 and 2013, 116 patients (120 ankles) underwent arthroscopic ankle arthrodesis (AAA). Mean age at surgery was 61.1 years with a mean follow-up of 86 months. Patients were assessed according to the American Orthopaedic Foot and Ankle Society (AOFAS) Ankle and Hindfoot scale, Ankle Osteoarthritis Scale (AOS) and Foot and Ankle Outcome Score (FAOS). Patients also underwent a comprehensive clinical and radiographic (pre and postoperative x-ray/CT) examination.
Results: Radiographic evidence of ankle fusion was achieved in 95% of patients. The mean AOFAS score was 83.3 (SD 13.2). The mean modified FAOS score was 87.4 (SD 10.4). There were 75% good/excellent results according to the modified AOS scoring system. According to the Kellgren-Lawrence score and van Dijk osteoarthritis grading scale 85% and 69% of patients had no change in talonavicular or subtalar grade of osteoarthritis, respectively. There were no cases of deep infection or other serious adverse events. All but 4 patients were able to return to work following AAA.
Conclusion: Arthroscopic ankle arthrodesis is an effective operation for treating degenerative ankle disease, even in cases of moderate tibiotalar coronal deformity. It resulted in good/excellent functional outcomes at a mean of 86 months post-operatively in nearly three-quarters of our patient cohort. Arthritis found in the adjacent hindfoot joints at the time of tibiotalar fusion appears to be a function of preexisting arthritic change and not directly caused by the tibiotalar fusion.

Outcomes and Complications of Endoscopically-assisted Percutaneous Achilles Tendon Repair

SS-47

April 15, 2:30 PM

Phinit Phisitkul, M.D., Presenting Author
Chamnanni Rungprai, M.D.

Introduction: Open repair of acute Achilles tendon rupture is considered as a standard surgical treatment while percutaneous technique has gained increasing popularity especially under endoscopic control. However, there is a lack of currently research reporting outcomes and complications following this technique.
Methods: A retrospective chart reviews with prospectively collecting data were performed in 30 patients with 30 legs who underwent endoscopically-assisted percutaneous Achilles tendon repair using 6-portal technique between 2008 and 2015. The minimum follow up to be included in the study was 6 months (mean, 49.3 months; range, 6 to 76 months). The primary outcome was FAAM, SF-36, and VAS. The secondary outcomes included operative time, recovery time, and complications.
Results: There were 30 patients (24 male and 6 female) with mean age of 36.7 years. An average of tourniquet time was 39.6 minutes (range, 23-67 minutes). There was significant improvement of VAS (7.1/10 to 0.1/10), SF-36 (PCS (38.8 to 49.9) and MCS (49.0 to 51.8)), FAAM (Activity, 19.0 to 88.4 and Sport, 0 to 65.6). An average time to return to activity of daily living, work, and sports were 6 weeks, 7 weeks, 3.6 months respectively. The complications included hypertrophic scar without pain (6.7%), superficial wound infection (3%). There was no re-rupture, deep vein thrombosis, sural nerve injury, and painful scar in this study.
Conclusion: Endoscopically assisted percutaneous Achilles tendon repair demonstrated significant improvement in terms of functional outcomes as measured with the FAAM, SF-36, and VAS. This technique is safe and feasible for treatment patients with acute rupture of Achilles tendon.

Arthroscopic Antero-superior Ancillary Portals for Addressing Surgical Repair perpendicularly on Talar Dome: Sixteen Years' Experience

SS-48

April 15, 2:25 PM

Francesco Allegra, M.D., Presenting Author
Stefano El Boustany, M.D.
Roberto Zannoni, M.D.
Enrico Bonacci, M.D.

Introduction: Restore of talar dome cartilage disorders are generally achieved with open surgery, considering malleolar osteotomy as main surgical choice. Concerns are on fate of ankles submitted to this procedure, being still unclear even this may influence further evolution in DJD. Aiming to avoid open surgery, authors have set up an arthroscopic technique by antero-superior portal, placed medially or laterally to permit vertical instruments position for addressing surgery to chondral lesions.
Methods: Since 1998, 123patients underwent arthroscopic OLT repair by superior portals in addition to 2standard anterior ones. Maintaining foot in maximum plantar flexion, a spinal needle is inserted 5-to-7 centimetres superiorly to anterior standard portal: slipping along anterior tibial bone surface, it reaches talar dome vertically. Trying several times until correct perpendicular placement

to OLT is achieved, portal is opened. Along switching stick the scope is inserted, showing upper view of anterior compartment, keeping 2anterior portals for working. Moving instruments inside joint space from "above" while talar dome is rolled on, better exposition of talus surface is reached. Furthermore, to gain room for those disorders placed on middle transverse talar line and beyond, additional dorsal capsulotomy is performed. Removing eventually some superficial bone at Harty's notch by bur, repair instruments reach defected talar dome, achieving visualization and shaver into anterior portals.
Results: Patients reported immediate significant improvement because of whole procedure without aggressive open approach and because no immobilization. Authors' malleolar osteotomy indication dropped down in last 16years, except selected cases where arthroscopy itself was hardly difficult to be lead out.
Conclusion: At outcome, Authors experience confirmed medial and lateral antero-superior ancillary portals have strong value in addressing repair procedures to ankle joint compartments, blind to traditional arthroscopic access. Easy to place and interchangeable, they help avoiding bony osteotomy and limiting articular further problems

Peroneal Tendons Well Vascularized: Results From a Cadaveric Study
SS-49

April 15, 2:35 PM
Pim van Dijk, B.Sc, Presenting Author
Xavier Madirolas, M.D.
Ana Carrera, M.D., Ph.D.
Gino Kerkhoffs, M.D., Ph.D.
Francisco Reina, M.D., Ph.D.

Introduction: The purpose of this study was to provide clarification on the arterial anatomy supplying blood to the peroneal tendons to provide recommendations for optimal tendoscopic treatment. Knowledge of vascularisation pattern helps in preoperative and peroperative planning and decision making and optimizes surgical approach.
Methods: Ten adult cadaveric lower extremities were obtained from a university-affiliated body donation program. The femur artery was injected with natural coloured latex at the level of the knee. Macroscopic and microscopic dissections were performed to visualize the vascularization towards the tendons. To expose intratendinous vascularity, the tendons were cleared using a modified Spälteholz technique.
Results: In all specimens, blood was supplied by the posterior peroneal artery, through a posterolateral vincula connecting both tendons. Branches were bifurcated every 3.9±1.8 cm, starting 24±5.3 cm proximal to the fibula tip. Eight out of 10 (80%) specimen had avascular zones in the peroneus longus tendon. The peroneus brevis was well vascularized over the whole course of the tendon, without appearance of avascular zones.
Conclusion: The peroneal tendons are well vascularized. Blood is supplied by the posterior peroneal artery, via vessels running through a common vincula for both tendons. In the peroneus brevis, avascular zones were not found. While the vincula may set back optimal tendoscopic view within the tendon sheath, surgeons should take care leaving the vincula intact during surgical procedures to keep the tendons well vascularized and therefore not jeapardize tendon healing.

Functional Outcomes of Peroneal Tendoscopy in the Treatment of Peroneal Tendon Disorders
SS-50

April 15, 2:40 PM
Pim van Dijk, B.Sc, Presenting Author
Youichi Yasui, M.D.
Christopher Murawski, B.S.
Gavin Duke, M.D.
John Kennedy, M.D.

Introduction: The purpose of this study was to evaluate clinical outcomes following peroneal tendoscopy in treating peroneal pathology. Additionally we assessed the correlation between peroneal tendoscopic findings and pre operative MRI diagnosis of peroneal tendon pathology.
Methods: Twenty-three patients with a mean age of 34±8.8 years undergoing peroneal tendoscopy were pre- and post operatively assessed with the Foot and Ankle Outcome Score (FAOS) and the Short Form-12 (SR-12). Follow-up was over 24 months in all patients. In comparison with peroneal tendoscopy, sensitivity and specificity for MRI was calculated, as well as the positive likelihood ratio.
Results: Both the FAOS and the SF-12 improved significant from preoperatively to final evaluation at a mean follow-up of 33 ±7.3 months, respectively $p<0.01$ and $p=0.01$. MRI showed an overall 90 (95% CI 82-95)% sensitivity and 72 (95% CI 62-80)% specificity. The positive likelihood ratio for MRI diagnosis of peroneal tendon pathology was 76 (95% CI 68-83).
Conclusion: Intraoperative findings by tendoscopy are highly correlated with preoperative MRI diagnosis and the high Positive Predictive Value indicated that MRI is a useful diagnostic method in the evaluation of peroneal tendon pathologies. Peroneal tendoscopy provides good outcomes in the treatment of peroneal tendon pathologies. Therefore, tendoscopic evaluation and treatment of peroneal tendon pathologies is recommended when MRI suggests a peroneal tendon pathology.

Evidence of Healing of Partial-thickness Rotator Cuff Tears Following Arthroscopic Augmentation With a Collagen Implant: A 2-year MRI Follow-up
SS-51

April 16, 9:50 AM
Steven Arnoczky, D.V.M., Presenting Author
Desmond Bokor, F.R.A.C.S.
David Sonnabend, F.R.A.C.S.
Luke Deady, F.R.A.N.Z.C.R.
Allan Young, F.R.A.C.S.
Benjamin Cass, F.R.A.C.S.
Craig Van Kampen, Ph.D.