

tients. Clinical and radiographic data were registered at 2, 3, 6, 24 month, and latest evaluation was 38 months average after the treatment. The scores for overall outcome demonstrated better outcomes and better ranges of motion, grip strength and better reduction than the control group. We found that the arthroscopically guided procedure was superior to the conventional open procedure.

Background: Recent advances in wrist arthroscopic surgery techniques and instrumentation have enabled the surgeon to improve the treatment of intra-articular distal radius fractures. But there is no consensus that an arthroscopically guided operation can improve the anatomical and functional results and decrease the open procedures.

Purpose: To determine the usefulness of arthroscopically assisted reduction of displaced intra-articular fractures of the distal aspect of the radius. This was a clinical study in a prospective case series, with control group.

Methods: From 2000 to 2004 we treated with arthroscopic reduction 40 patients with intra-articular fractures classified according to AO classification: 12 fractures B1, 18 fractures B2, 6 fractures B3, 4 fractures C1. Patient inclusion criteria was: articular step off or gap formation greater than 2 mm after closed reduction, age less than 50 years old, associated lesion of intercarpal ligament or TFCC or DRUJ. Patient exclusion criteria was: open fractures, concomitant upper extremity injuries, peri-articular soft tissue damage, initial carpal tunnel syndrome or compartment syndrome. Technique: Vertical traction was used, with no more than 5 Kg to avoid to overreduce the radioulnar inclination and cause dorsal tilt of the fracture fragments. Standard portals was made under fluoroscopic control to ensure that arthroscopic canula will be not inserted into a fracture plane. The initial clot and debris were removed with motorized shaver and all condral injuries were treated and loose fragments were removed. All intercarpal ligament injuries were assessed and graded. Than the arthroscopic reduction of articular surface was performed, the radial stiloid fragment was usually reduced first. Depressed fragments were elevated using dental pick or probe or with K wire with out-side joy-stick technique. The subcondral K wire were placed directly while the articular reduction was maintained. at the end of procedure the associated lesion of intercarpal ligament or TFCC were treated. The fractures were pinned in 25 cases, and in 13 cases external fixation was used, only in 2 cases were performed open reduction and internal fixation and 28 patients were treated for associated lesion (SL, TFCC). Range of motion, grip strength, VAS, Mayo modified wrist score, DASH questionnaire and standard radiographs were registered at 2, 3, 6, 24 month, and latest

evaluation was 38 months average after the treatment. All patients were matched to control group B of 40 patients for fracture pattern, age and gender treated with conventional procedure. Statistical methods: data from both group were compared using the Student t test for continous variables, and the level of significance was set to p.

Results: No perioperative complications occurred. The scores for overall outcome demonstrated that the group A had better outcomes and better ranges of motion and grip strength ($p < 0.05$) than the group B. The radiographic results showed that the patients of group A had better reduction of volar tilt, ulnar variance, and articular displacement than patients of group B.

Conclusions: On the basis of our prospective comparative study, we found that the arthroscopically guided procedure was superior to the conventional open procedure.

Endoscopic Menon Technique vs Open Carpal Tunnel Release Surgery: A Prospective and Randomized Study (SS-62). *Emilio Lopez-Vidriero, MD, PhD, Jorge Angulo, MD, Silvia Exposito, MD, Jose Lara, MD*

Purpose: Carpal tunnel syndrome is the most common nerve entrapment syndrome in the upper extremity, affecting 1% of the general population and 5% of working population. Our aims were to asses the current controversies in topics like pillar pain, scar tenderness, long term assesment of symtoms and function and in return to daily tasks. As far as we know there are no prospective randomized studies with the anterograde uniportal technique described by Menon.

Methods: Prospective and randomized study. 116 operated hands between 1996 and 2001 75 endoscopic one portal anterograde releases (Liniatec. Largo, FL) and 41 open surgeries. All of them performed by a single surgeon. Clinical review performed by two independent reviewers in short term (8,33 days +/- 1,4) and long term periods (35,33 month +/- 18,75). Short term review: presence of radial and cubital pillar pain, weakness and scar tenderness. Long term review: improvement of Levine test (preoperative – postoperative) for function and symptomatology items. Time to return to daily tasks

Satisfaction: short and long term.

Results: The endoscopic Menon technique and the open technique had 7,9% vs 19,5% presence of radial pillar pain and 4% vs 2,4% of cubital pillar pain respectively, with no significant differences between groups. In terms of weakness: 25% vs 46% and scar tenderness 9,5% vs 29,3%. Both significative different with $p < 0,05$. When we looked at improvement in the Levine test

(points)Function was 2,64 (3,88-1,24)vs 2,29 (3,92-1,63)and Symptomatology was 2,4 (3,59-1,19)vs 1,9 (3,35-1,45). Both significantly different with a $p < 0,05$. The time to return to daily tasks (days) was 12,68 +/-6,62 vs 15,7 +/-6,96. Lastly, satisfaction in short term was 8,14 +/-1,85 vs 7,68 +/-2,36 and in long term was 8,84 +/-1,34 vs 7,95 +/-1,88 with no significant differences between groups. Data as mean +/- sem.

Conclusions: In our study both techniques are effective in terms of relieving symptoms and function. Endoscopic release in the short term has less presence of radial pillar pain, weakness and scar tenderness. In the long term improves significantly more in the Levine score. Patients who underwent endoscopic surgery in our study were able to return to daily task significantly sooner. We found no significant differences in patient satisfaction neither in short nor in the long term assessment.

Arthroscopic Thermal Shrinkage for Scapholunate Ligament Injuries (SS-63). *Ferdinando Battistella, MD, Ettore Taverna, MD*

Summary: This clinical study on 120 patients in a prospective case series, randomized, with control groups determine the effectiveness of arthroscopic thermal shrinkage with radiofrequency for the treatment of symptomatic SL ligament injuries (Geissler grade I, II, III) with pre-dynamic or dynamic instability. The treatment of scapholunate injuries grade I with shrinkage is more effectiveness than the arthroscopic debridement, and associated with pinning with K-wire is more effectiveness than the only arthroscopic debridement and pinning for lesion of grade II and III. This may be a viable treatment option for SL ligament tears.

Background: The use of arthroscopic thermal shrinkage with radiofrequency (RF) for the treatment of scapholunate (SL) ligament injuries is a recent technique and the real effectiveness is undetermined. The ability of RF probes to both debride and shrink tissues make them an attractive alternative to mechanized resector debridement of SL ligament tears as a means of offering additional stability to SL joint.

Purpose: To determine the effectiveness of arthroscopic thermal shrinkage with radiofrequency for the treatment of symptomatic SL ligament injuries.

Study design: Clinical study in a prospective case series, randomized, with control groups.

Methods: From 2001 to 2004 we treated 120 patients affected of SL ligament injuries with Geissler grade I, II, III with pre-dynamic or dynamic instability, presenting with chronic dorsoradial wrist pain unresponsive to conservative treatment for a mean period of 8 weeks. Patient

exclusion criteria: Patient with associated lesion, or with static SL instability DISI. The patients were randomized to 4 group for different treatment: 20 patients with Geissler grades I SL injuries were treated with shrinkage (group A) and 20 patients with the same lesion (group B) were treated with arthroscopic debridement. Forty patients with Geissler grades II and III SL injuries (group C) were treated with shrinkage plus pinning with K-wire and forty patients with the same lesion (group D) were treated with arthroscopic debridement plus pinning with K-wire. Technique: Standard portals were made. Any attenuated or lax ligament was easily found with dynamic test. The shrinkage of the SL ligament was performed with a 2.3 mm monopolar RF probe dedicated for shrinkage (Micro-Tacs). The shrinkage was performed on proximal and dorsal part of SL ligament extending to the dorsal capsula. A plaster cast were applied for 4 weeks to the patients of group A and B and for 6 weeks for group C and D. Clinical outcome was evaluated at 3, 6, 12, 18 month and latest evaluation was 32 months average after the treatment. Instruments for outcome evaluation included pre and postoperative use of modified wrist-scoring system of Mayo Clinic and DASH questionnaire, V.A.S., grip strength, standard and loading radiographs. Statistical methods: data from both groups were compared using the Student t test for continuous variables, and the level of significance was set to p.

Results: No complications were noted from the use of RF probes. The scores for overall clinical outcome demonstrated that the group A had better outcomes than the group B, also the group C had better outcomes than the group D. No statistically changes over pre-operative values were observed with radiographs for Group A and Group B. Statistically changes were observed in patients of group C with dynamic instability: SL interval decreased in loading radiographs.

Conclusions: The treatment of scapholunate injuries grade I with shrinkage is more effectiveness than the arthroscopic debridement, and associated with pinning with K-wire is more effectiveness than the only arthroscopic debridement and pinning for lesion of grade II and III. This may be a viable treatment option for SL ligament tears.

Carpal Tunnel Syndrome Endoscopic Surgical Treatment: Two to Ten Years Prospective Study (SS-64). *Francesco Allegra, MD, Giuseppe Schisa, MD*

Summary: The study prospectively evaluates 2093 endoscopic carpal tunnel releases (Chow procedure),