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Arthroscopy of the temporomandibular joint: Discopexy with resorbable pins

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Introduction: Since early 80s, arthroscopy of the temporomandibular joint has been a Minimal Invasive Surgery (MIS) that effectively treats some intraarticular TMJ diseases. Nowadays, its interest among oral and maxillofacial surgeons is increasing but there is a lack of a complete training program, except in few places. This unique procedure allows surgeons to manage different diseases that include, synovitis, chondromalacia, adhesions, disc perforations and disc displacement. Also, beneficial substances, as PRP, hyaluronic acid and botulinum toxin can be instilled. This masterclass tries to help surgeons who are starting with the technique, giving them several tips to succeed and showing different pitfalls to avoid, based on the author's own experience in over 700 procedures. Further information will be helpful for the experienced surgeon and very innovative variation in standard techniques (i.e., discopexy with resorbable pins) will also be analyzed through educative videos.

Purpose: To describe the use of resorbable pins for disc fixation in a series of patients and their medium- long term outcomes.

Materials and methods: A study was conducted in 26 patients who underwent operative arthroscopic surgery and discopexy using resorbable pins. All patients were refractory to conservative treatment and presented, in at least one joint, anterior disc displacement without reduction on Magnetic Resonance Imaging (MRI). Pre- and postoperative evaluation parameters were disc position on MRI, maximal interincisal opening, lateral movements, joint pain, and articular locking and clicking.

Results: The technique was performed in 34 joints and 47 pins were inserted. Mouth opening increased significantly, from a mean of 31.24 mm preoperatively to 39.57 mm in one year postoperatively ($p < 0.05$). Patients reported a decrease in pain, obtaining values on a visual analogue scale (1e100) of less than 20 after one year of post-surgery (mean improvement 47.9 points, $p < 0.05$). Analyzing one-year MRI findings, in 65% of joints the discs were repositioned and in 20% of joints discs were in a more posterior position. Five years later results are also shown.

Conclusions: The use of resorbable pins is a useful technique for disc fixation and shows medium-long term improvement in clinical parameters and mandibular function. However, further studies are needed to evaluate a longer follow-up, joint morphologic changes, and disc stability on imaging

Recent Publications

1. Martin-Granizo R, Garcia-Rielo JM, De la Sen O, Maniegas L, Berguer A and De Pedro M (2017) Correlation between single photon emission computed tomography and histopathologic findings in condylar hyperplasia of the temporomandibular joint. *Journal of Cranio-Maxillo-Facial Surgery* 45(6):839-844.
2. Martín-Granizo R and Millon-Cruz A (2016) Discopexy using resorbable pins in TMJ arthroscopy. Clinical and MR medium-term results. *Journal of Cranio-Maxillo-Facial Surgery* 44(4):479-486.
3. Millon-Cruz A and Martín-Granizo R (2015) Relationship between intra-articular adhesions and disc position in TMJ. MR, arthroscopic findings and clinical results. *Journal of Cranio-Maxillo-Facial Surgery* 43(4):497-502.

Biography

Rafael Martin-Granizo is an Oral and Maxillofacial Surgeon in TMJ from 1997. He is an Active Member of the EACMFS and IAOMS. He is presently working as Staff in Department of Oral and Maxillofacial Surgery in Hospital Clinico San Carlos, Madrid, Spain. He is a Councillor for Spain in EACMFS from 2012. He is a President of Spanish Society of Oral and Maxillofacial Surgery. His practice focused on TMJ Surgery, Orthognathic Surgery and Oncology.

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