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On the background of 25-years of clinical experiences in TMJ surgery of the senior author, the rationale and indications for this option will be exemplified by a variety of cases.

Methods: In contrast to prefabricated stock prostheses, custom made prostheses are individually patient fitted on the basis of a CT-scan.

Between 05/2007 and 01/2008 four patients (five joints) were operated using a combined preauricular and submandibular access. Indications: posttraumatic ankylosis n=2, 3 joints (stock n=1, custom made n=2); after tumor surgery defect, n=2, 2 joints (custom made). Potoperatively, the patients were set on IMF with elastics for one week. Minimum follow up was 4 months.

Results: In both ankylosis cases, postoperative mouth opening improved to 30 mm interincisal distance without effort. In the large tumor defect cases, either the side shift of the mandible in one patient and nonocclusion on the opposite side in the other patient could be favourably corrected with a custom made endoprosthesis, both restoring or maintaining function.

Conclusion: In the selected indications shown, endoprostheses of the last generation seem to be useful and reliable in restoring TMJ function. Condylar resorption and ankylosis in irradiated areas may be further indications.

O.637 Arthrocentesis plus hyaluronic for osteoarthritis of the TMJ

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Objectives: The present study describes a case series on the use of arthrocentesis with hyaluronic acid infiltrations for the treatment of temporomandibular joint (TMJ) osteoarthritis by providing patients evaluations at six-months.

Methods: Seventy-six patients with a diagnosis of osteoarthritis according to the Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD Axis I Group IIIb) underwent a cycle of five arthrocentesis with injections (one per week) of 1 ml hyaluronic acid. Several clinical parameters (pain at rest and mastication; masticatory efficiency; maximum non-assisted and assisted mouth opening; functional limitation; subjective efficacy and tolerability of the treatment) were assessed by the same blinded operator at the time of the diagnosis (baseline), at each appointment during the treatment and at one-week, one-month, three-months and six-months follow-up appointments.

Results: Descriptive analysis showed improvements which were maintained over time for all the study parameters. Permutation tests evidenced the significance of changes which occurred in many clinical parameters within the first two injections. Differences with baseline levels remained significant at the end of the follow-up period, in particular for the masticatory efficiency and pain at mastication (minimum and maximum) parameters.

Conclusions: Data from the present investigation supported findings from studies on other joints, which showed the efficacy of serial injections of hyaluronic acid after arthrocentesis to reduce symptoms of osteoarthritis and to maintain improvements over time.

O.638 Autologous blood application in TMJ therapy

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Objectives: Autologous blood applications is therapeutic method for hypermobility of the TMJ. Authors present experiences with this method in 1 year long term study.

Methods: 29 patients with chronic hypermobility of the TMJ underwent intraarticular autologous blood application.

Result: In 1 year long term study were 24 patients without hypermobility symptoms, without complications, without bone changes in TMJ structures.

Conclusion: autologous blood application is simply method for TMJ chronic hypermobility therapy. This is good method after unsuccessful conservative therapy and before open surgery

O.639 Botulinum toxin after alloplastic reconstruction of the TMJ

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Objectives: Chronic arthralgia and longstanding limited mouth opening associated with temporomandibular joint ankylosis cause muscle splinting, shortening and atrophy. This may represent an extra-articular cause of mandibular movement restriction and limit the outcome of alloplastic total joint reconstruction. The Authors present their preliminary reports in the use of Botulinum Toxin in order to improve the effect of postoperative physiotherapy.

Methods: We treated with injections of botulinum toxin-A into the masseter muscles and physiotherapy five patients who were affected by longstanding temporomandibular joint ankylosis and treated with alloplastic total joint replacement. These five patients did not reach the goal of a maximal incisal opening (MIO) of 30 mm and postoperative CT scans had not shown any mechanical obstruction, prosthesis dislocation or heterotopic bone formation. The patients were evaluated by clinical examination at 2 weeks, 1, 4, 8 and 12 months after the injections of botulinum toxin.

Results: After 1 month the mean MIO improvement was 6 mm. All the patients showed a MIO superior to 30 mm. This result was confirmed at 1 year follow up.

Conclusions: Preliminary observations from this study suggest that botulinum toxin-A injections into the masseter muscles, reducing the contractile force of these masticatory muscles, may have a role in strengthening stretching and elongation of the residual not atrophic fibers of the muscle. Therefore they can improve the effect of the postoperative physiotherapy in patients presenting a unsatisfactory MIO after alloplastic total joint reconstruction.

O.640 Botulinum toxin in the treatment of condylar fracture

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Condylar injury in adults has generated more discussion and controversy than any other in the field of maxillofacial trauma. Ten patients with unilateral subcondylar or condylar neck fractures of the mandibula without any significant angulation of the condylar head were managed with closed-treatment protocol. Closed treatment was applied through the injection of 100 units of botulinum toxin A into the muscles of mastication of the fractured side. An asymmetric occlusal splint was applied for maxillomandibular fixation to restore the vertical height for 10 days. Functional therapy with intermaxillary guiding elastics was advocated for 2 months.

Results: There were no complications related to either toxin injections or splint application procedures. Fractured condylar process and ramus of the mandibula were in good approximation and remained in reduced positions. None of the patients had any occlusal disturbance, mandibular asymmetry, or joint dysfunction in the follow-up period.

Botulinum toxin may be an aid in relieving muscular spasm.