Total tmj alloplastic reconstruction for treatment of benign tumors - a combined intraoral and extraoral approach

A.P.S. Gil*, M.C.C. Volkweis, L.S. Meirelles, N. Scolari, A. Machado-Fernández, M.E. Muñoz-Pereira, N. Uzun, O.L. Haas Junior, R.B. de Oliveira

Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS), Porto Alegre, Brazil

Background: Current literature supports that temporomandibular joint (TMJ) reconstruction with alloplastic implants is a reliable, safe and effective treatment option of TMJ end-stage pathology.

Objectives: The purpose of this study is to describe two cases of benign tumor excision and customized alloplastic TMJ reconstruction via a combined intraoral approach (IA) and extraoral approach (EA).

Methods: Two patients with TMJ involved for benign tumor were enrolled in this study. All the joints were replaced with customized prosthesis under general anesthesia. An implant handpiece with adapted drills for bone drilling and the insertion of screws was used to fixate the mandibular component IA. The fossa component was inserted via standard preauricular approach.

Findings: The hemimandibulectomies with safety margin were successfully performed. The follow-up period was from 8 to 38 months (average 23 months). No infection or damage to the prostheses occurred. Occlusal relationship, facial symmetry and mouth-opening were kept stable in all patients.

Conclusion: Total TMJ replacement with customized prosthesis using a combined intra-oral approach and extra-oral approach is a good strategy for pathologic reconstruction, keeping function and reducing aesthetic damage.

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Viscosupplementation with hyaluronic acid in temporomandibular disorders

M.P. Silva*, S.C. Sales, W.H. Castro, F.E.B. Campos

Clinical Hospital of the Federal University of Minas Gerais, Belo Horizonte, Brazil

Background: Temporomandibular disorder (TMD) may presente like disc displacement, degenerative and/or inflammatory disorders and osteoarthritis. These conditions are characterized with chronic pain, joint noises and limited mandibular function. There is different treatments, among them have conservative and surgical, both have been studied to improve clinical symptoms and restore function. The viscosupplementation with hyaluronic acid (HA) injections has gained space among the conservative treatments. This treatment allows lubrication, nutrition, and cartilage/osseous repair.

Objectives: The aim of this clinical study is report nine patients with TMD that received intra-articular injections with HA and its advantages to treat degenerative disorders.

Methods: The six patients performed Magnetic Resonance Imaging (MRI) to investigate disc displacement, and Cone Beam Computed Tomography (CBCT) to evaluated the condylar morphology before and after injection. Them were managed with three sessions of intra-articular injections (01ml) of hyaluronic acid in superior and/or inferior joint space.

Findings: The postoperative CBCT revelead the improve of the condylar morphology and mandibular function in most patients after treatment.

Conclusion: The injection of HA appears to result in better osseous repair of the mandibular condyle and improve of jaw function. References: 1- Li, C. et al. Osteoarthritic changes after superior and inferior joint space snjection of hyaluronic acid for the treatment of temporomandibular joint osteoarthritis with anterior disc displacement without reduction: A Cone-Beam Computed Tomographic evaluation. Journal of Oral and Maxillofacial Surgery. 2015; 73(2), 232–244. 2- Ferreira, N. et al. Efficacy of viscosupplementation with hyaluronic acid in temporomandibular disorders: A systematic review. Journal of Cranio-Maxillofacial Surgery. 2018.

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Extended total tmj prostheses for simultaneous tmj replacement and restoration of major mandibular defects

L. Pinto*, E. Santos

Hospital Geral de Fortaleza, Fortaleza, Brazil

Background: The temporomandibular joint (TMJ) replacement may be required in complex cases with additional mandibular or temporal bone defects. In cases in which the length and complexity of these bone defects made autogenous grafts unsuitable, the customized extended TMJ prostheses can be a viable treatment option, restoring the facial anatomical contour and function. The computer-aided-design/computer-aided-manufacturing (CAD/CAM) technology made it possible pushing the boundaries of the customized standard TMJ prostheses to include extended versions, in which the mandibular and fossa components can both replace the TMJ and restore mandibular or temporal bones continuity. Considering the bone defects diversity, there is a need of different lengths to the prosthesis's extensions.

Objectives: Present a classification system of these customized extended TMJ prostheses to facilitate the communications between surgeons and surgeons, also surgeons and manufacturers.

Methods: Literature review and presentation of two clinical cases to illustrate the applicability of this treatment option.

Findings: The specific literature about extended TMJ prostheses and two cases presenting viable results after a minimum of one and half year follow-up.

Conclusion: Customized extended total TMJ prostheses can be a reliable treatment alternative for TMJ replacement and bridging complex, major mandibular or temporal defects.

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