

COMBINED MANAGEMENT OF CUSTOM MADE TEMPOROMANDIBULAR JOINT REPLACEMENT AND ORTHOGNATHIC SURGERY FOR ANTECEDENT OF FIBROUS ANKYLOSIS

Jaime Andrés Jiménez Alvarez, Oral and Maxillofacial Surgeon, Roosevelt Institute, Bogotá, Colombia
Diana Elena Solís Campos, Resident, Oral and Maxillofacial Surgery, Pontificia Universidad Javeriana, Bogotá, Colombia

INTRODUCTION

Ankylosis of the temporomandibular joint (TMJ) is a disorder that leads to a restriction of the mouth opening with partial or total reduction of mandibular movements (1, 2). This condition is disabling and interferes with function. It can affect speech, chewing, oral hygiene and craniofacial growth (3). The most common cause of ankylosis is hemarthrosis, which is defined as the existence of blood within the TMJ, secondary to a jaw trauma, especially in the chin area (4). In addition, other origins are attributed to it such as postoperative complications, local infections, infections of the middle ear or of the mastoid process; and systemic diseases such as ankylosing spondylitis, rheumatoid arthritis, myositis ossificans, among others (5). TMJ ankylosis can be: fibrous, fibro-osseous or osseous (6) The fibrous ankylosis found in the present case and can be explained by a progression of joint adhesions that gradually creates a significant limitation of the joint movement. Inflammation aggravates the disorder since it leads to the appearance of more fibrous tissue creating a vicious circle, further impeding mobility (7). Neither the poster or any of the authors of these have a conflict of interest.

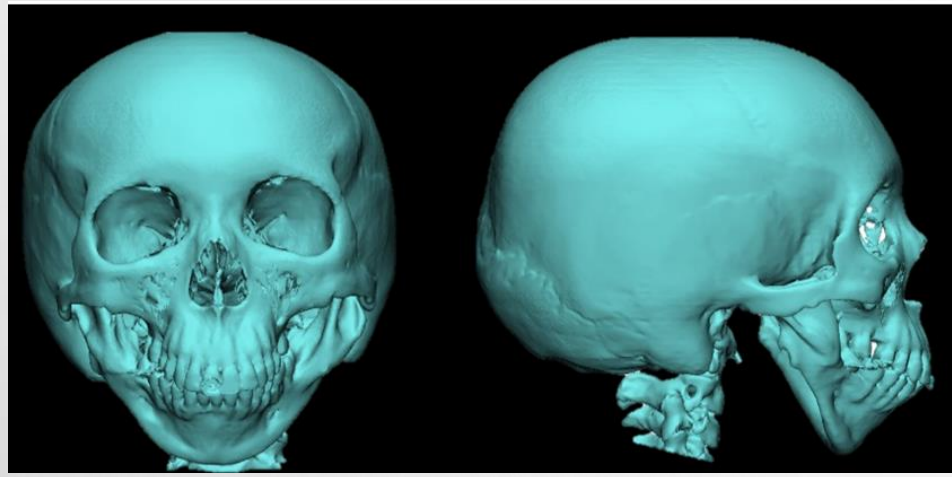
OBJECTIVE

To describe a clinical case of bilateral ankylosis release with immediate rehabilitation of a bilateral joint prosthesis simultaneous to bimaxillary orthognathic surgery.

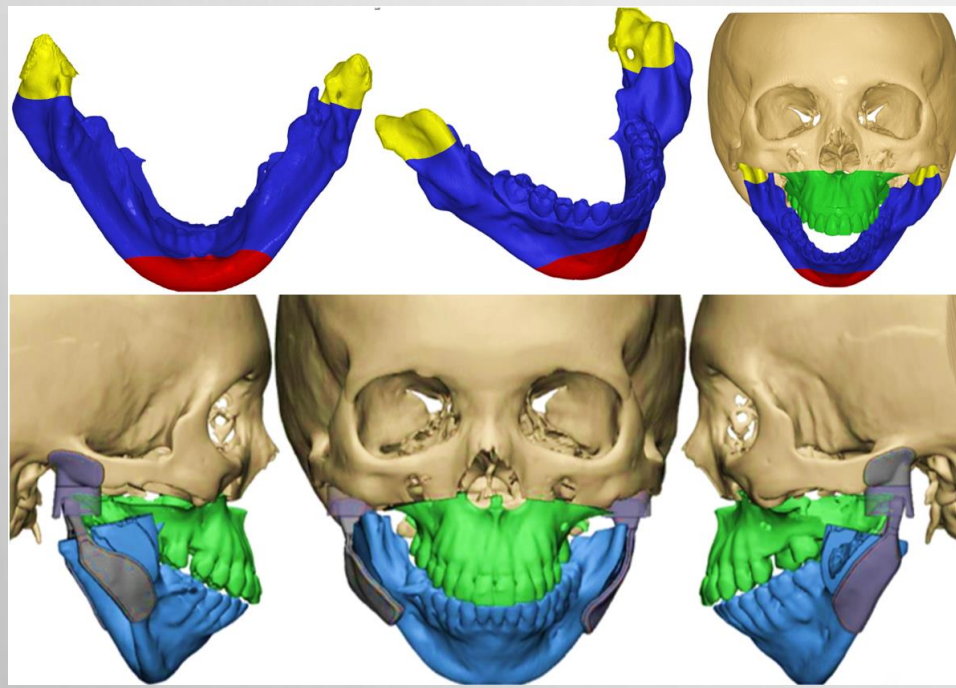
CASE REPORT

39-year-old female patient, who presents with mandibular ankylosis referred since childhood, on facial clinical examination presents class II dentofacial anomalie characterized by micrognathia accompanied by severe microgenia, mental deviation of 4mm to the right, the oral opening of 10mm with associated pain 6/10, maxillary deviation 2 mm to the right. On tomographic examination, she presented bilateral Wilkes V, osteoarthritic joint changes, and ankylosing mass on both sides presented inclusion of the middle meningeal artery.

INITIAL CONDITION



VIRTUAL PLANING



Under general anesthesia with previous virtual planning, the release of the ankylosis is performed first through resection of the ankylosis mass bilaterally, followed by total bilateral joint replacement made to measure, which generates advancement of 10 mm of pogonion. Later, a Le Fort I osteotomy was performed with a 6 mm posterior descent plus maxillary advancement and midline correction.

POSTOPERATIVE RESULTS AT ONE MONTH



CONCLUSION

Customized bilateral temporomandibular joint replacement in conjunction with orthognathic surgery provides patients with a greater magnitude of aesthetic and functional changes, giving the possibility of having a facial balance of the lower third, as well as an improvement in function at airway, an increased range of oral opening, greater efficiency of swallowing and speaking.

In the present case, an improvement in the oral opening range from 10mm to 40mm was achieved with a positive effect at a functional, level in its chewing, swallowing, phonation, more permeable airway and sleep efficiency. In addition, a favorable impact on their aesthetics and facial harmony, last but not least, an improvement in their self-esteem and interpersonal relationships is achieved on a psychological level.

BIBLIOGRAPHY

- Vasconcelos BCE, Bessa-Nogueira RV, Cypriano RV. Treatment of temporomandibular joint ankylosis by gap arthroplasty. Med Oral Patol Oral Cir Bucal 2006;11:E66-9.
- Atilas Aleva N, Costa Armond M, Roberto Domingue P, Andrade Gomes D, Generoso R, Ribeiro A. Anquilosis condilar mandibular unilateral. Relato de caso clínico. Acta Odontol Venez 2008;46(2):187-90.
- Kegian Z, Wenhao R, Hong Z y cols. Management of temporomandibular joint ankylosis: 11 years' clinical experience. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2009;108:687-92.
- Okeson, JP. Tratamiento de oclusión y afecciones temporomandibulares. 6 Ed, España: Elsevier, 2008;455-6.
- Casanova MS, Tuji FM, Ortega AI, Yoo HJ, Haiter-Neto F. Computed tomography of the TMJ in diagnosis of ankylosis: two case reports. Med Oral Patol Oral Cir Bucal 2006;11:E413-6.
- Belmont-Laguna F, Sánchez-Matus L, Téllez-Rodríguez J & Ceballos-Hernández H. Terapia funcional en el postoperatorio de la anquilosis temporomandibular en pacientes pediátricos. Acta Pediatr Mex 2007;28(3):111-7.
- Casanova MS, Tuji FM, Ortega AI, Yoo HJ, Haiter-Neto F. Computed tomography of the TMJ in diagnosis of ankylosis: two case reports. Med Oral Patol Oral Cir Bucal 2006;11:E413-6.