Gap Arthroplasty of Bilateral Temporomandibular Joint Ankylosis

ABSTRACT

Objectives: To present a case of bilateral temporomandibular joint ankylosis that was managed successfully through gap arthroplasty.

Methods:

Design: Case Report
Setting: Tertiary Government Hospital
Patient: One

Results: A 25-year-old man presented with inability to open his mouth for 18 years after direct trauma to his chin. CT scan showed bilateral bony fusion of condyles to glenoid fossae, hypertrophic sclerosis and fusion of the condylar heads to the temporal bones. He underwent bilateral gap arthroplasty via preauricular approach with creation of a 15 mm space on the mandibular fossa. As of latest follow up, the patient maintained an inter-alveolar distance of 30 mm for five months postoperatively through continuous aggressive mouth opening exercises.

Conclusion: Gap arthroplasty may be an efficient procedure for temporomandibular joint ankylosis in achieving satisfactory post-operative inter-alveolar opening and articular function. Early and meticulous rehabilitation is required to prevent relapse. Long-term follow up is recommended to document possible recurrence.

Keywords: temporomandibular joint ankylosis, gap arthroplasty, TMJ ankylosis, ankylosis

Temporomandibular joint (TMJ) ankylosis is the union of articular surfaces (mandibular condyle to the cranial base) by means of osseous and/or fibrous tissue with partial or complete mandibular impediment. The most common etiologic factors include trauma (13-100%), infections (10-49%), rheumatoid arthritis (10%), congenital anomalies and neoplastic processes.

It is a condition leading to problems in mastication, digestion, speech, facial and oral hygiene. When acquired at childhood, devastating effects are observed during growth and development of teeth and jaws. It can negatively influence the psychosocial behavior of the patient due to the consequent facial deformity magnified as the child grows. Various methods have been used to manage TMJ ankylosis including gap arthroplasty, interpositional arthroplasty and joint reconstruction by bone grafts or joint prosthesis. Recent studies advocate distraction osteogenesis in management of TMJ ankylosis as it provides excellent cosmetic results.

A local report in 1984 by Nolasco et al. involved a case of bilateral TMJ ankylosis treated with interpositional arthroplasty wherein 5 mm length of the bone was removed from edge to edge then interposed with temporalis fascia and muscle. The patient presented at: Interesting Case Contest, Philippine Society of Otolaryngology Head and Neck Surgery, Iloilo Grand Hotel, Iloilo City, Philippines, April 28, 2012.