
SUMMARY

TMJ ankylosis results from trauma, infection and inadequate surgical treatment of condylar area. Many techniques for treatment of this disorder have been described in the past. But none of them have been achieved a high success rates. Limited range of interincisal opening due to relapse, loss of vertical height of the affected ramus, foreign body reactions and reankylosis are expected complications.

In this paper, an unusual application and shape of acrylic spacer in the treatment of TMJ ankylosis is presented.

Key words: Temporomandibular joint, ankylosis; Spacer, acrylic

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Introduction

Temporomandibular joint (TMJ) ankylosis is a disabling condition creating difficulties in jaw function. Hypomobility not only affects the TMJ but surrounding structures as well. Factors causing TMJ ankylosis are well known and include trauma, local systemic infection, and inadequate surgical intervention of condylar area.

Numerous techniques have been proposed in treatment of TMJ ankylosis in adults, including gap arthroplasty, variety of spacers, and costochondral grafts.

In this paper we present an acrylic spacer which is innovative in shape.

Technique

Patients were operated under general anesthesia using nasal-endotracheal intubation. Through the preauricular approach the ankylosic area is clearly exposed. A 1-2 cm gap is created, and care should be taken in order not to damage the internal maxillary artery or pterygoid plexus. A spherical acrylic spacer is inserted between the 2 segments, by preparation of 2 concave cavities on both articular surfaces with the use of large round burr (Fig. 1). The acrylic spacer separates the segments and allows free movement, preventing reunion.

After surgery, patients were advised to undergo physiotherapy. Although this was painful during the first week, most patients showed gradual progress during this stage.

Figure 2 reveals a huge bony block of osteoma, where due to excessive bone formation resection was made on the ascending ramus above the third molar (Fig. 3), followed by placement of the spherical acrylic spacer (Fig. 4).

Figure 1. Diagram of the procedure

Figure 2. Radiograph of patient demonstrating a huge bony block in TMJ area
the use of metallic fossa condylar prosthesis. Kent et al.\textsuperscript{13} reported successful results with the use of proplast coated metallic condylar prosthesis. In the same year, Raigopal et al.\textsuperscript{1} reported the cases treated by gap arthroplasty. Borçbakan\textsuperscript{12} and Sawhney\textsuperscript{16} based their studies on 88 and 70 patients respectively, who were treated with acrylic spacer and reported no foreign body reaction. The use of spherical acrylic spacer was first described by Borçbakan\textsuperscript{17}. This type of spacer enabled a patient free rotation of mandible, a considerable improvement on the technique developed by Sawhney\textsuperscript{16} which allowed only hinge movement. Advantages of this technique are shorter operating time, and its very low cost.

References


Discussion

Treatment of TMJ ankylosis should be surgery, and many surgical techniques have been suggested. According to the literature, the first attempt to treat this condition by surgery was made by Humphrey\textsuperscript{6}. Verneuil\textsuperscript{7} made the first interposition arthroplasty. During the last decades of the 19th century, Rizoli\textsuperscript{8} described horizontal resection of the ramus in TMJ ankylosis. Risdon\textsuperscript{9} used gold foil to coat the glenoid fossa to prevent reankylosis. Eggers\textsuperscript{10} described the placement of tantalum foil in arthroplasty. Following this, Walker\textsuperscript{11} advocated the use of fascia and sylastic in TMJ ankylosis. In the ensuing years, Christensen\textsuperscript{2} and Robinson\textsuperscript{3} reported some modifications of fossa implants. Borçbakan\textsuperscript{12} reported the first series, consisting of 110 cases with surgical treatment of TMJ ankylosis using acrylic condyle. Khlein et al.\textsuperscript{13}, Kummoona\textsuperscript{4}, Sonnenburg and Sonnenburg\textsuperscript{14} reported

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