Interposition of lateral pterygoid in temporomandibular joint ankylosis

Biju Pappachan¹ ✉ · Snehal B²

¹ Associate Professor

² Lecturer

Govt Dental College, Raipur

Received: 28 April 2009 / Accepted: 25 May 2009

© Association of Oral and Maxillofacial Surgeons of India 2009

Abstract Conventionally temporalis myofascial flap is popular for interposition in TMJ ankylosis. Medial pterygoid and masseter also has been used in the past for interposition. We introduce here lateral pterygoid for interposition in cases of mild ankylosis where condylar bony architecture is not distorted.

Keywords Interposition · Temporomandibular joint ankylosis · Lateral pterygoid

Address for correspondence:

Biju Pappachan

D-74, Sec-5, Devendra Nagar

Raipur, Chattisgarh, India

Ph: 00919425507287

E-mail: biju_pappachan@yahoo.com

Introduction

The use of alloplast has not found favor for interposition in temporomandibular joint ankylosis. First use of autogenous tissues may be that of Verneuil, employed temporalis flap in 1860 [1]. The use of autogenous auricular cartilage as replacement for the disk was first introduced by Perko in 1973 [2]. Georgiade first described the use of the dermis as disc replacement in 1957 [3]. Costochondral graft was first endorsed in the modern context by Ware and Brown [4]. Masseter and medial pterygoid also have been used for interposition at the level of ramus, Salins [5].

We have introduced lateral pterygoid in specific cases of ankylosis as in fibrous ankylosis or mild ankylosis where condylar anatomy has not distorted much.

The larger inferior belly of the lateral pterygoid muscle originates from the outer surface of the inferior belly of lateral pterygoid muscle plate; whereas the superior belly originates from the infratemporal surface of the greater sphenoid wing. Fibers of the inferior belly converge upward and outward in a predominantly backward direction with its upper fibers running more horizontal and its lower fibers ascending more steeply. Fibers of the inferior belly are inserted to a roughened fovea on the anterior and medial surface of the mandibular neck, whereas fibers of superior belly are directly elongated by tendinous extension into the anterior ligament of the articular disk (Fig. 1).

Fig. 1 Lateral pterygoid with its attachment

After condylectomy while the condyle is being retrieved, the attachment to fovea and disk is gently peeled off and teased. It's used alone if the disk is unavailable or used in conjunction with the remnant disk. Sutured with 3-0 vicryl to the adjacent tissues (Figs. 2 and 3).

This muscle is readily available from the osteoarthrectomy site itself, carries no additional morbidity of local or distant site. Lateral pterygoid is strong muscle however because of lack of function for long period, will remain inactive. However it's not available in cases of extensive ankylosis, thus its use is limited to milder form of TMJ ankylosis. Enough muscle is available as shown in the photograph however caution is to be maintained and excess pulling of muscle is to be avoided.

Merits

Available from immediate surgical site.
Can be used in cases of mild ankylosis

Fig. 2 Lateral pterygoid being teased out gently

Fig. 3 Lateral pterygoid sutured and in place as interposition

where bony architecture condyle is maintained. No additional donor site morbidity.

Demerits

Muscle is not available in cases of extensive ankylosis where condylar anatomy is not defined.

Additional benefits

- Distant donor site morbidity avoided
- Temporal hollowing avoided
- Always there is advantage in interposition than gap.
- Available from immediate surgical site.

References

1. Verneuil A (1860) The creation of a false joint por section or partial resection of lower jaw; As al ways to address the true false ankylosis of the lower jaw. Arch Med Generale V Series 15: 174
2. Perko M (1973) Contraindication and indication for surgical operation on the jaw joint. Schweiz Monatsschr Zahnheilkd, 83: 73
3. Georgiade N, Altany F, Pickrell K (1957) An experimental and clinical evaluation of autogenous dermal grafts used in the treatment of TMJ ankylosis. Plast Reconstr Surg 19(4): 321–336
4. Ware WH, Taylor RC (1966) Growth center transplantation to replace damaged mandibular condyles. J Am Dent Assoc 73(1): 128–137
5. Salins PC (2000) New perspectives in the management of craniomandibular ankylosis. Int J Oral Maxillofac Surg 29(5): 337–340

Source of Support: Nil, **Conflict of interest:** None declared.