

STABILITY OF ADVANCEMENT GENIOPLASTY USING BONE PLATE FIXATION

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ABSTRACT :

The aim of this study was to evaluate the efficacy of bone plate fixation in stabilizing advancement genioplasty. 13 patients were treated by advancement genioplasty. According to the method of fixation of the genial segment, patients were grouped into two groups. In group (I) (7 patients), titanium miniplate was used in fixing the genial segment. In group (II) (6 patients), interosseous wiring was used. At 6-9 months postoperatively, both methods of fixation yielded good stable results. Also there was non significant difference as regarding either the amount of advancement or the amount of relapse between the two groups.

INTRODUCTION:

Horizontal osteotomy of the inferior border of the mandible, genioplasty, is a versatile technique to correct chin abnormalities. Genioplasty could be used to correct deficient, excessive or asymmetric chin^(2,8,10). It could be done as an isolated procedure or with other plastic maxillofacial surgery.

Originally, genioplasty was performed via an extraoral approach⁽⁹⁾, but in 1957, Trauner & Obwegeser⁽¹⁴⁾ introduced a modified horizontal osteotomy through an intraoral approach. Although the technique is considered a stable one, however, there are some factors that may play a negative effect on its stability. The pull of the suprahyoid muscles and perimandibular connective tissue attached to the advanced distal segment could be a factor in relapse after osteotomy⁽⁵⁾. Some in-

vestigators advocated that genioplasty be done as a totally free graft⁽³⁾. But others, showed that non pedicled genioplasty is prone to a high significant resorption and necrosis⁽¹⁾. In an attempt to produce a more stable genioplasty McDonneel & associates⁽¹⁰⁾ reported their use of multistep osteotomy design, where two osteotomy cuts are made and the chin is advanced in layers. Michellet's technique of a tenon and mortise design that tends to resist the pull of the suprahyoid muscles after advancement has been advocated by many authors⁽¹⁷⁾. Rigid fixation in the form of Steinmann pins⁽¹⁵⁾ or Kirschner wire has⁽¹⁶⁾ been used instead of the traditionally applied wiring techniques, to produce a more stable results. Recently, plate and screw fixation is becoming more widespread in stabilizing the segment, however, there is a lack of data in the literature about the stability of the use

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