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Corticotomy Assisted Le Fort I Osteotomy: An Alternative To Segmentation Of The Maxilla

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T26.OR021

Autografting Le Fort I

J. Guiol^{1,*}, S. Stephen², D. Jean¹¹ Centre Hospitalier Universitaire de Nantes, France² Stanford Hospital and Clinics, USA

Purpose: We present a surgical technique for maxillary auto-bone grafting complementary and simultaneously to Le Fort I orthognathic surgery that was used on 123 patients. This graft has two main objectives: to reduce the dead space between the two bone parts of the maxilla and increase the volume of the cheeks, para-nasal spaces or cheekbones to improve the aesthetic result of the intervention.

Methods: From 2007 to 2012, 123 patients underwent a Le Fort I surgery with the conventional technique of Bell. Bone debris collected during the intervention were then wrapped in a sheet of Surgicel® and then grafted at the dead space left in the osteotomy by maxillary movement, or on the anterior maxilla in the paranasal area or on the malar bone. The records of 80 patients were collected to evaluate the postoperative course and 29 postoperative scans were studied to measure the size of the bone pieces.

Results: The postoperative course was uneventful in 93.5% of cases. Seven cases or 8.4% of patients had a postoperative maxillary persistent edema. One case (1.2%) presented a sinus infection without any etiology determined.

Conclusion: This technique, simple and easy, to use allows improved bone healing and cosmetic results without causing excess morbidity. It seems to be a good alternative to bone grafting technique sometimes long and complicated. It can be applied to all Le Fort I osteotomy.

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T26.OR022

Comparison of two point versus one point fixation techniques in submentotracheal intubation during craniomaxillofacial surgeries—a pilot study

A. Gupta^{1,*}, D. Kapoor²¹ Lady Hardinge Medical College, India² Government Medical College Hospital, India

Background and objectives: Airway management in the craniomaxillofacial trauma surgery may require some modifications of the standard intubation techniques. Submental endotracheal intubation may serve as an effective and safe alternative route in these conditions. In standard technique of submentotracheal intubation, the tube is fixed extra orally at the submental incision site with sutures to prevent displacement of the tube during the surgical intervention. But still it leaves a possibility of accidental extubation during the conversion of orotracheal to submental route and vice versa. To counteract this problem we in our institution, fix the tube at two points, one at molar teeth intraorally and second at skin surface externally near submental incision site ensuring a secured airway.

Method used: A total of 10 patients were included with panfacial trauma and were divided into two equal groups of five patients each. Group 1 (test) is intubated using two point fixation technique of submental intubation and Group 2 (control) using standard one point fixation technique. The primary outcome is displacement of tube during orotracheal to submental conversion and vice versa, which was evaluated using fiberoptic endoscope. Secondary outcomes are complications like accidental extubation or endobronchial intubation.

Results: Mean displacement of ET tube in two point fixation group was found to be 3 mm during orotracheal to submental conversion and 2 mm during submental to orotracheal conversion. While in one point fixation group mean displacement of ET tube was found to be 12 mm and 10 mm, respectively. Endobronchial intubation occurred in one patient of group 2.

Conclusion: Two point fixation technique has given better outcomes than standard one point fixation technique. The decrease in tube displacement during submental or orotracheal conversion and vice versa help in avoiding adverse complications like accidental extubation and endobronchial intubation in the patients.

Key words: submentotracheal intubation; fixation techniques; panfacial injuries

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T26.OR023

Rapid correction of dento-facial deformities combining accelerated osteogenic orthodontics (AOO) and orthognathic surgery

C. Hasse

Center for Oral Facial Reconstruction, USA

Background and objectives: Heinrich Kole first introduced the corticotomy procedure to accelerate tooth movements,¹ Epker² and others³ modified the technique but corticotomy surgery has gained little acceptance in the modern era of orthognathic surgery. Wilcko et al.⁴ introduced a technique combining corticotomies, stippling and alveolar ridge grafting. The technique termed AOO or Wilckodontics has been shown to be very successful in correcting dental malocclusions.⁵ The purpose of this paper is to report the author's results combining AOO and orthognathic surgery.

Methods: The author reviewed 30 cases in which both AOO and orthognathic surgery was utilized. The type of deformity, the treatment time frame, sequencing of surgeries and any complications were analyzed.

Results: A retrospective study of the 30 cases surveyed showed that the average set-up time for orthognathic surgery was 17 weeks. This resulted in the orthognathic surgery being performed in 1/3 to 1/4 of the time normally required utilizing conventional orthodontia. Furthermore, the average total treatment time for correcting all of the cases was 34 weeks.

Conclusions: Combining AOO with orthognathic surgery results in an exceptionally fast time-frame for correcting dento-facial deformities. The results are stable with a reproducible occlusion and a minimum of post-operative complications. Furthermore, it is advantageous in that pre-treatment bone dehiscences and fenestrations remain covered as confirmed by CT scans. The AOO surgery can be performed as an outpatient (office type) procedure, resulting in less hospital operating time and costs. The need for surgically assisted rapid palatal expansion (SARPE) and multi-piece osteotomies has been eliminated with this approach.

Key words: AOO; Wilckodontics; orthognathic surgery; RAP; dento-facial deformities

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T26.OR024

Corticotomy assisted Le Fort I osteotomy: an alternative to segmentation of the maxilla

A. Hinojosa*, R. Fariña, A. Zurbuchen, F. Salinas

Hospital Del Salvador, Chile

The segmentation of the Le Fort I osteotomy is a surgical technique used for the correction of vertical and horizontal discrepancies. However one of its limitations is the presence of narrow interradicular distance. This article describes a surgical technique that can be used to solve dentofacial deformities associated with inadequate overbite/overjet when articulated models are hand-held in the presence of a narrow interradicular distance. The technique involves the Le Fort I osteotomy associated with buccal alveolar corticotomies in the maxilla. During the immediate postoperative period elastic forces are applied to mobilize the dentoalveolar segment, leading to the closure of the bite. The outcome of the treated patients confirms that this technique is an alternative to segmentation of the maxilla.

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