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FATE OF BONE PLATES AND SCREWS USED FOR FIXATION OF FACIAL OSTEOTOMIES

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ABSTRACT

Objectives: Rigid internal fixation (RIF) using different bone plates and screws is now the most commonly employed method for fixation of facial osteotomies. The article discusses the fate of these implanted plates and screws after healing of osteotomies.

Materials and methods: Records of 56 patients who underwent orthognathic surgery were collected and analyzed. All osteotomies were rigidly fixed using bone plates or screws.

Results: A total number of 116 plates and 272 screws were used for fixation. The data showed that a total number of 33 plates (28%) and 52 screws (9%) were removed. The causes of plate removal were, infection (36%), dehiscence (22%), prominent plates (15%), secondary surgical procedures (12%), thermal sensitivity (19%) and according to patient request (6%).

The causes of screw removal were infection (36.5%), pain (32.5%), secondary surgical procedures (19.5%) and due to patient request (11.5%).

Conclusion: Plates and screws were only removed when they became symptomatic. So patients in whom RIF is used for fixation of osteotomies should be informed that there is a future possibility that the implanted plates and screws may be a source of complaint which will necessitate their removal.

INTRODUCTION AND REVIEW OF LITERATURE

Different osteotomies of the maxillofacial skeleton to improve esthetics and occlusion are now employed as an integrated practice by the oral and maxillofacial surgeons. The traditional method of fixation of these osteotomies has been interfragment wiring and maxillomandibular fixation. However, in 1960s and 1970s oral and maxillofacial surgeons began applying newly developed techniques of rigid fixation to the facial skeleton [1,2]. Over the past several decades many workers have contributed to the development of rigid internal fixation (RIF) techniques [3,4]. Nowadays, RIF of facial osteotomies has now become the most common form of fixation used in orthognathic surgery [5]. Proponents of RIF of facial osteotomies propose several advantages, which include: (1) Intra-operatively, there is an improved control of bony segments; even areas with poor bony contact can be stabilized by RIF devices [5]. (2) The surgeon has the opportunity to evaluate occlusion upon completion of the procedure [5]. (3) RIF allows for intra-operative staging flexibility, as when it may be advantageous to complete the mandibular surgery before the maxillary surgery [5]. (4) RIF improved patient's comfort because the patient no longer requires extended periods of immobilization, so patient's speech, hygiene, nutrition and psychological state are therefore enhanced [5]. (5) Post-

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