

INTRODUCTION

The treatment of maxillo-facial fractures requires a special understanding of both orthopedic and dental principles. Apart from a meticulous examination, the most important factor in this treatment is the anatomic-ally correct reduction and rigid fixation of the fracture according to the pre-existing occlusion.⁽¹⁾

In recent years, bone plating system in connection with surgery of the extremities have been developed to fulfil a completely functionally stable connection of the fragments which must remain firm for the period re-quired for healing of the fracture and the restoration and maintenance of correct occlusion in cases with stand- ing full or partial dentition without disadvantages of employing intermaxillary fixation. The compression plate system solves one of the two basic problems namely stable reduction and fixation and it is far superior to all other methods for this purpose.⁽²⁾

The primary goals of treatment of mandibular frac- tures are to re-establish proper occlusal relationship, adequate function, and esthetic harmony.

The main surgical objective is to provide sufficient immobilization of the fragments to allow normal bony healing to occur. This goal is most often achieved by closed reduction using maxillo-mandibular fixation (MMF). However, oral and maxillofacial surgeons and others involved in the treatment of mandibular fractures have long been aware of complicating situations that can limit or preclude the use of MMF. As a result, a number of techniques have evolved to provide internal fixation so as to minimize or eliminate the need for MMF and to more precisely align the bony fragments.^(3,4,5,6)

A prolonged period of immobilization of a fractured mandible by maxillo-mandibular fixation is not without complications. In addition to the discomfort and inconvenience experienced by the patient, it can cause post-operative embarrassment of the air way,⁽⁷⁾ disrupt the normal intake of food, and offer a serious problem in the treatment of a mentally deficient, an epileptic, an uncooperative, or an unconscious patient. If immobilized for prolonged periods of time, ankylosis may develop in patients with fractured mandibles who have had sufficient

trauma to the temporomandibular joint with resultant hemarthrosis.⁽⁸⁾ Because of these complicating situations, a new technique is presented to eliminate or considerably decrease this period of maxillo-mandibular fixation. This involves immobilization of fractured mandibles after open reduction with the use of compression screw plate system.⁽⁹⁾ It offers a more rigid fixation and better resists muscular forces that tend to displace such fractures, there is little or no need for maxillo-mandibular fixation (Zero to two weeks). The patient is able to effect jaw function while the fracture heals.⁽¹⁰⁾

Compression fixation of fractures and osteotomies has gained wide acceptance in recent years, Danis⁽¹¹⁾ was probably the first to design a rigid longitudinal compression system using a plate screwed to the bone cortex and compressed by a device incorporated in the plate. Using this technique, Danis was successful in securing radiological " Primary bone healing " in fractures of the forearm bones and tibia.⁽¹²⁾