بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

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15 – 25c and relative humidity 20-40 %

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لم ترد بالأصـــل

EVALUATION OF THE DIFFERENT MODALITIES OF TREATMENT USED IN MANDIBULAR FRACTURES (RETROSPECTIVE STUDY)

Thesis
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CONTENT

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Chapter I

Introduction

INTRODUCTION

Fractures of the mandible have traditionally been managed by either closed or open reduction techniques based on the presence or absence of teeth, location and type of fracture, degree of displacement and age of patient[1].

The management of mandibular fractures should be guided by several dental and orthopedic principles: 1) reduction of the fracture site to its correct anatomical position; 2) restoration of the premorbid occlusion; 3) rigid immobilization of the fracture to facilitate healing; 4) optimal and early restoration of function; and 5) prevention of infection and malunion or non-union of the fracture [2].

The use of maxillomandibular fixation (MMF) with or without open reduction and wire osteosynthesis has been the conventional approach for applying these principles in the treatment of most uncomplicated mandibular fractures [2].

Traditionally open reduction of mandibular fractures with wire osteosynthesis requires four to eight weeks of MMF for satisfactory healing [2].

Critics of prolonged immobilization have noted patient complaints of panic, insomnia, social inconvenience, phonetic disturbance, loss of effective worktime, physical discomfort, weight loss and difficulty recovering a normal range of jaw movement [3]

In addition fractures involving the edentulous or partially edentulous mandible. Fractures associated with a continuity defects, infected fractures and fractures in patients who have special medical or social problems are not easily managed with this conventional approach [4].

Rigid internal fixation (RIF) promotes primary bone healing without the extended use of MMF [5].

Eliminating MMF generally results in greater patient satisfaction because of decreased postoperative discomfort, earlier return to normal jaw function, easier maintenance of oral hygiene and better nutrition. In addition, some studies have suggested that RIF results in a lower rate of infection, malunion and nonunion when compared with standard treatment (open or closed reduction and MMF) [6].

The basic concept of rigid fixation is absolute stability and there are a variety of techniques advocated to achieve this end [7]. Michelet et al [8]. and Champy et al [9] suggest that engaging a single cortex is sufficient for rigid osteosynthesis. In contrast other authors believe that rigid osseous fixation is not obtained without bicortical engagement of the screws [10-12].

A number of authors also report that compression of fragments is essential to achieve primary bone healing [10-12]. Although compression has been principally achieved through large compression systems, less rigid mini-systems may suffice [6].

Chapter II

Review of Literature

Incidence of mandibular fractures:

Fractures of the mandible are common in patients who sustain facial trauma because the mandible is one of the more common targets in altercations [13] for instance, a study carried by Haug et al showed a 6:2:1 proportion between mandibular, zygomatic and maxillary fractures.[14].

It's prominence and position in the face renders the mandible the second most commonly fractured part of the maxillofacial skeleton [15,16]. (coming after the nose) and the tenth most frequently fractured bone in the body [17].

The condyle is atypical location for mandibular fractures, followed by the angular and canine regions of the body; these locations are weak points in the mandible [18, 19]. Impacted third molars and canines with long roots direct the energy of the impact into these areas and hence mandibular fractures are common at such points [20], this is one reason why prophylactic removal of asymptomatic third molars can be considered [21].

Etiology of mandibular fractures:

- ***Traumatic fractures***:

The main causes world wide are road traffic accidents (RTA), assault, falls and sport related injuries [22].

Earlier studies from Nigeria [23], Libya [24], Europe [25,26], and the United States [27] showed that road traffic accidents were the most frequent cause of the maxillofacial fractures.

More recent studies have shown that assault is the most common cause of maxillofacial fractures in many developed countries, whereas road traffic accidents remain the most frequent cause in many developing areas [28, 29].

The causes of maxillofacial fractures vary widely from one countery to another because of social, cultural, and environ mental factors [30-34].

Fractures that involve the angle of the mandible, particularly if wisdom teeth are present are often caused by assault.[35] But fractures caused by road traffic accidents (RIAs) usually involve the body of the mandible or the condyle or both [36].

Blunt trauma from drug-related violence has become a major cause of mandibular fractures [37, 38].

- ***Pathological fractures***:

Pathological fractures is a fracture which occurs through a pre-existing lesion or in a diseased part of the bone [35].

Pathological fractures in general are uncommon. Pathological fractures to the facial bones are quite rare and almost always involve the mandible [24]. Pathological fractures may be due to osteo-radionecrosis,[39, 40], primary, secondary and directly bone invading tumors [41, 42], chronic osteomyelities [43], Multiple myeloma [44], or cysts [45].