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Comparison of Intraoral and Extraoral Approch for the Management of Angle Fracture under General Anesthesia

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Abstract: To compare treatment outcomes between extra oral and intraoral approaches for the fixation for the management of mandibular angle fractures and to develop a protocol for successfully managing these fractures. And to understand the advantages and disadvantages of each technique, outcomes and criteria for choosing between different surgical approaches.

Key words: Angle Of Mandible · Extra Oral · Fixation · General Anesthesia · Intraoral

INTRODUCTION

Fractures of angle of the mandible are largest percentage of mandibular fracture [1]. The reason behind frequent fracture of mandibular angle are thinner cross sectional area, the anatomical change from horizontal to vertical rami and presence of third molar and muscle forces present in angle region [2]. Intraoral technique has no external scarring, more over no injury to marginal mandibular nerve. It also gives a good visualization of the occlusion during plating. However there might be chances of contamination of wound intraorally [3, 4]. Whereas extra oral approach there is minimal requirement to bend the plate. It also facilitates the placement of plate in mid point area of mandible [5]. In order to provide more stable in fixation extra oral approach is performed. A concealed skin incision in submandibular area provides a clean wound separating the sterile plates from contaminated oral cavity. Though in some patient develops unsightly scars and injury to marginal mandibular nerve [6].

MATERIALS AND METHODS

A retrospective review of inpatients medical records of patients with mandibular factures at Sree Balaji dental college and hospital. In this study all patients must have isolated mandibular angle fracture that required open reduction and internal fixation. Patients with concomitant midface, parasymphysis and condylar fracture were not included. Pre anesthetist fitness achieved for patients, case done under general anesthesia, (i.e. propofol and fentanyl + droperidol).

Operative Procedure:

Fig. 1: Extra oral approach

Fig. 2: Wound Closure

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Fig. 3: Intra oral approach

Fig. 4: Intra oral reduction and fixation

Fixation was with a four hole centrally spaced 2 mm plate placed either anteriorly on external oblique ridge via an intraoral approach (Fig 3, 4) and in extra oral approach skin incision was given in submandibular region (Fig 1, 2), layer by layer dissection carried out to expose fracture fragments which are fixed with 2mm plates and 6-8mm screw.

RESULTS AND DISCUSION

A total of 80 patients with mandibular fracture where treated during the study period most common cause was road traffic accident. Out of 80, 45 were treated by intraoral, 35 by extra oral approach and remaining. We have reported the outcomes of 80 mandibular angle fracture treated at Oral and Maxillofacial Surgery Unit. There were 55 males and 25 females with a mean age of 25 years. Road traffic accident 70% was the main etiologic factor.

A third molar was present in the fracture line in 70 (90%) of 80 patients. There is no consensus regarding the need to remove third molar in line of fracture [7]. Our practice has been to remove tooth that are loose within socket with no apical blood supply.

Minor complications encountered were soft tissue infection and plate exposure in intraoral route in 5 patients. These were managed by local irrigation and antibiotics. One patient required removal of plate after bone healing. Minor occlusal discrepancy in one patient was managed by light guiding elastics. The extra oral route often cause an undesirable scar; there is also a probability of damage to branches of facial nerve. On the other hand application of miniplate is facilitated by direct exposure and lighting associated with extra oral route. Infection occur in 5 patients treated via this route might be due to presence of extra hardware. These were treated by antibiotics like Taxim and removal of plates in one case.

There were no major complications requiring hospitalization, such as osteomylitis, nonunion or malunion in this study.

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