

Original Research

Analysis of patients with mandibular fracture

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ABSTRACT:

Background: Maxillofacial fractures are one of the most frequent and complicated problems of oral and maxillofacial surgery. Within these fractures, mandibular is one of the most affected bones. Hence; the present study was conducted for assessing patients with mandibular fracture. **Materials & methods:** A total of 100 patients with presence of mandibular fractures were enrolled. Complete demographic and clinical details of all the patients were obtained. A Performa was made and complete details of clinical examination findings were recorded. Treatment planning was done according to radiographic findings. All the results were recorded and analysed by SPSS software. **Results:** Symphysis and Parasymphysis was the location of the fracture in 16 percent and 18 percent of the patients respectively. Body and angle were involved in 12 percent and 13 percent of the patients respectively. Open reduction was done in 23 percent of the patients while closed reduction was done in 77 percent of the patients. **Conclusion:** Most common area of mandibular fractures was Symphysis and Parasymphysis region.

Key words: Mandibular fractures, Profile

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INTRODUCTION

Maxillofacial fractures are one of the most frequent and complicated problems of oral and maxillofacial surgery. Within these fractures, mandibula is one of the most affected bones. When all of the facial bone fractures are evaluated, incidence of the mandible fractures can be detected as ~38%. If mandible fractures are not treated appropriately, they can cause morbidities at a high level. The most important aim of the treatment is to provide healing on both functional and cosmetic aspects. During the determination of treatment strategy, age of the patient, presence of additional injuries, comorbid diseases of the patient, trauma type, and localization of the fracture must be kept in mind. Although there are many developing techniques for the fixation of the fractures, still there is no consensus on the ideal treatment.¹⁻³

Several variables are related to the study of mandibular fractures which have resulted in differences in demographic characteristics reported in the literature. Various countries across the globe have provided statistics of mandibular fractures, but

information provided is distinct for the countries of origin and the people residing there. Increase in incidence of mandibular fractures is stated in long-term studies. Reported data show that mandibular fractures occur usually in the third decade of life with male predominance. The socioeconomic trends, geographic locations, and local behavior have a considerable impact on the etiology of the injury which sequentially influences the distribution of fracture sites. The key etiology for maxillofacial fractures may vary from road traffic accidents to assaults and from fall to sports injuries. Most mandibular fractures which occurred from assault have alcohol consumption as an eminent contributing factor.⁴⁻⁶ Hence; the present study was conducted for assessing patients with mandibular fracture.

MATERIALS & METHODS

The current study was planned for assessing patients with mandibular fracture. A total of 100 patients with presence of mandibular fractures were enrolled. Complete demographic and clinical details of all the

patients were obtained. A Performa was made and complete details of clinical examination findings were recorded. Treatment planning was done according to radiographic findings. All the results were recorded

and analysed by SPSS software. Univariate regression curve was used for evaluation of level of significance.

RESULTS

Mean age of the patients was 34.6 years. 76 percent of the patients were males. Motor cycle accident was the etiologic profile in 49 percent of the patients. Symphysis and Parasymphysis was the location of the fracture in 16 percent and 18 percent of the patients respectively. Body and angle were involved in 12 percent and 13 percent of the patients respectively. Open reduction was done in 23 percent of the patients while closed reduction was done in 77 percent of the patients.

Table 1: Demographic profile

Variable	Number of patients	Percentage
Mean age (years)	34.6	
Males (%)	76	76
Females (%)	24	24

Table 2: Etiologic fracture

Variable	Number of patients	Percentage
Assault	23	23
Motor cycle accident	49	49
Fall from height	28	28

Table 3: Location

Location	Number of patients	Percentage
Symphysis	16	16
Parasymphysis	18	18
Body	12	12
Angle	13	13
Ramus	11	11
Condyle	9	9
Mixed	21	21

Table 4: Treatment done

Treatment done	Number of patients	Percentage
Closed reduction	23	23
Open reduction and internal fixation	77	77

DISCUSSION

Mandibular fractures are twice as common as fractures of the bones of the mid-face and comprise most of injuries treated by an oral and maxillofacial surgeon. A group of authors reported that parasymphyseal fractures were most frequent (35%), while the least common were dentoalveolar (1.3%) and ramus fractures (5.7%). In a retrospective study, it was reported that condyle, body, symphysis and parasymphysis were the most common mandibular fractures, whereas ramus (4%) and coronoid (2%) were the least common fractures. One of the authors reported that body (28%) followed by the parasymphysis (24%) were the most common fracture sites while alveolar ridge (3%) and coronoid (1%) were the least common areas. Other studies on mandibular fractures reported that parasymphysis was the most common fracture while coronoid was the least common. Mandibular fractures can involve any of the anatomic sub-sites with simultaneous multiple

sites involvement. Literature was scant regarding multiple site fractures (double unilateral, contralateral and triple unilateral fractures) in mandible. The patterns and etiology of mandible fractures varied considerably among different study populations. There was an increase in the frequency of fractures due to violent mechanisms along with an increase in incidence of these injuries in adolescents and young adults, especially in urban areas.⁷⁻⁹ Hence; the present study was conducted for assessing patients with mandibular fracture.

Mean age of the patients was 34.6 years. 76 percent of the patients were males. Motor cycle accident was the etiologic profile in 49 percent of the patients. Symphysis and Parasymphysis was the location of the fracture in 16 percent and 18 percent of the patients respectively. Body and angle were involved in 12 percent and 13 percent of the patients respectively. X Ba et al investigated the characteristics of mandibular fracture. 413 patients with mandibular fracture were

chosen from patients who received treatment. Fracture of Mandible occurred mainly in male, and during 20 to 29 years old. Mental fracture was common in mandibular fracture, and fracture of central craniofacial bone and craniocerebral injury were often complicated with jaw fracture. Mandibular fractures are caused mainly by traffic ever since 1990, and rigid intrafixation is a satisfactory treatment which has been accepted by surgeons.¹⁰

In the present study, open reduction was done in 23 percent of the patients while closed reduction was done in 77 percent of the patients. Bart van den Bergh et al investigated the etiology, incidence, and complications of patients with mandibular fracture. 213 patients with surgically treated mandibular fracture were identified. Two hundred thirteen patients were included with a mean age of 32.5 (SD, 15.2) years. Male-female ratio was 2.2:1. A total of 410 fracture lines were identified. In violence-related injuries, angle fractures were proved to be the main fracture site. For male patients, violence (33.6%) was the main cause of injury. The most common cause for female patients was traffic related. In 169 patients, open reduction with internal fixation was performed in 17 patients without intermaxillary fixation. Twenty-seven patients were treated only with intermaxillary fixation. A total of 1738 screws and 393 plates were used. Sixty patients presented with complications. The results of this report are partly in line with other studies and provide important data for the design of plans for injury prevention.¹¹

CONCLUSION

Most common area of mandibular fractures was Symphysis and Parasymphysis region.

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