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Original Research

Prevalence of mandibular fracture visiting in a tertiary care hospital

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ABSTRACT:
Background: The incidence of maxillofacial trauma is increasing very rapidly in developing countries. Mandible is the largest and strongest facial bone and it is the second most commonly fractured bone. The aim of the study was to assess the prevalence of mandibular fracture visiting in a tertiary care hospital. **Material and methods:** The present study is a retrospective study that included all cases of mandibular fractures that were clinically and radiographically diagnosed at a tertiary care hospital over a period of 6 months. The study population consists of patients of age 20 to 60 years of age, with either sex being included. The data about mandibular fracture were collected by means of structured questionnaire including age, sex, and anatomic site of fracture. Statistical analysis was done using SPSS Statistics 21.0. $P < 0.05$ was considered statistically significant. **Results:** In the present total study population was 1220 in which 990(81.14%) males and 230(18.85%) females. Study population was maximum of age group 20-30 years(55.57%). Frequency of parasymphseal fracture was maximum (34.83%). Frequency of condylar fracture was 24.18%. **Conclusion:** Our study concluded that the prevalence of mandible fractures was more prevalent in male patients, especially during the 20-30 years age group. The most frequently affected region was parasymphysis of the mandible.
Key words: maxillofacial injuries, mandibular fracture, parasymphseal fracture.

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INTRODUCTION:

The fracture is defined as "breach in the continuity of bone."[1] Facial area is one of the most frequently injured areas of the body, accounting for 23%–97% of all facial fractures.[2] The mandible is a prominent part of the face and has important functional roles such as speech, chewing, and swallowing. It is also very important from an esthetical point of view. Due to the prominent position in the face, fracture of the mandible is one of the most common fractures of the maxillofacial skeleton.[3-6] Because of the prominent position of the lower jaw, mandibular fractures are the most common fractures of the facial skeleton. It has been reported that fractures of the mandible account for 36% to 59% of all maxillofacial fractures. [7] Despite the fact that it is the largest and strongest facial bone, it is the tenth most often injured bone in the body [8] and second to nasal bone fractures [9] and it is fractured two or three times more often than other facial bones.[10] The aim of the study was to assess the prevalence of mandibular fracture visiting in a tertiary care hospital.

MATERIAL AND METHODS:

The present study is a retrospective study that included 1220 cases of mandibular fractures that were clinically and radiographically diagnosed at a tertiary care hospital over a period of 6 months. Before the commencement of the study ethical approval was taken from the ethical committee of the institute and informed consent was obtained from the guardian of the patients. The study population consists of patients of age 20 to 60 years of age, with either sex being included. The study individuals having developmental disorders, pathology, and tumors of mandible were excluded from the study. The data about mandibular

fracture were collected by means of structured questionnaire including age, sex, and anatomic site of fracture. Statistical analysis was done using SPSS Statistics 21.0. Qualitative variables were compared using Chi-square test. $P < 0.05$ was considered statistically significant.

RESULTS:

In the present total study population was 1220 in which 990(81.14%) males and 230(18.85%) females. Study population was maximum of age group 20-30 years(55.57%). Frequency of parasymphseal fracture was maximum (34.83%). Frequency of condylar fracture was 24.18%.

Table 1: Distribution according to gender

Gender	N(%)
Male	**990(81.14%)**
Female	**230(18.85%)**
Total	**1220(100%)**

Table 2: Distribution according to age

Age group	N(%)
20-30	**678(55.57%)**
31-40	**422(34.59%)**
41-50	**95(7.78%)**
51-60	**25(2.04%)**
Total	**1220(100%)**

Table 3: frequency of mandibular fracture

Variable	N(%)	
	Yes (%)	N(%)
Parasymphyseal fracture	425(34.83%)	795(65.16%)
Angle fracture	210(17.21%)	1010(82.78%)
Condylar fracture	295(24.18%)	925(75.81%)
Symphseal fracture	135(11.06%)	1085(88.93%)
Coronoid fracture	60(4.91%)	1160(95.08%)

DISCUSSION:

The most common causes of mandibular fractures worldwide are violence and traffic accidents. [3,11] As it is proved that mandible is the only facial bone that has mobility and the remaining portion is part of the fixed facial axis, the fracture of mandible is never neglected because it is very arduous pain that aggravates on mastication and phonation movements and even respiratory movements. Sometimes, there are facial asymmetry complaints. Mandible fractures may lead to deformities caused by displacement or nonrestored bone losses, with dental occlusion affection or TMJD.[12]

In the present total study population was 1220 in which 990(81.14%) males and 230(18.85%) females. Study population was maximum of age group 20-30 years(55.57%). Frequency of parasymphseal fracture was maximum (34.83%). Frequency of condylar fracture was 24.18%.

The pattern of age distribution in maxillofacial injuries demonstrated that people of all ages were affected; the peak incidence was, however, observed in the age group of 21-30 years. This finding is in accordance with a number of previous studies in India [13,14] as well as other parts of the world. [15,16]

Globally, the anatomical location of mandibular fractures varies. Ellis 3 rd *et al*. and Maliska *et al*. found that the body, followed by the condyle, was the most common fracture sites in their studies. [3,6] Subhashraj *et al*. found that in India, the most common fracture site was the parasymphysis, followed by the condyle.[13]

Kamulegeya *et al*.[17] Ahmed *et al*.,[18] and Leles *et al*.,[19] who stated in their study that the predominance of fracture was observed in the 18–34 years of age group and mostly males were affected.

Patel *et al*.,[20] concluded that mandibular angle fracture is more common in males than females who reported the body as the most prominent site whereas van Beek and Merkx[21] found the condyle as the most common site and Chalya *et al*.[22] stated the angle as the most prominent site of fracture.

CONCLUSION:

Our study concluded that the prevalence of mandible fractures was more prevalent in male patients, especially during the 20-30 years age group. The most frequently affected region was parasymphysis of the mandible.

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