Original Research

Prevalence of Mandibular Fracture in a Known Population

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Abstract
Background: This study was conducted to assess the Prevalence of Mandibular Fracture in a Known Population.
Material and methods: This study comprised of 100 participants. All the subjects had been informed about the procedure and were asked for consent. All the subjects agreed to give consent and were included in the study. All the subjects had history of road traffic accident and had been referred to the Department of Oral and Maxillofacial Surgery of the nearby dental college and hospital. The prevalence of mandibular fracture had been observed. The types of fractures had been noticed and the findings were tabulated. Statistical analysis was conducted using SPSS software.
Results: In this study, mandibular fractures were present in 26 subjects. Hence, the prevalence of mandibular fractures was 26%. The most common type of fracture was body fracture, accounting for 12 cases. Other fractures were located at the angle, ramus, coronoid process, symphysis and condyle, accounting for 6, 4, 2 and 1 case each, respectively.
Conclusion: In this study, the prevalence of mandibular fractures was 26%. The most common type of mandibular fracture was body fracture.
Keywords: Fracture, Mandible, Ramus, Angle, Body

Introduction

The mandible is the most frequently affected area in orofacial injuries, accounting for approximately 10% to 40% of such cases. Fractures of the mandible may occur at a single location or may involve multiple anatomical regions.[1,2]

The causes of mandibular fractures include road traffic accidents, sports-related injuries, and physical assaults. Notably, around 50% of mandibular fractures in males result from assaults, while in females, the predominant causes are motor vehicle accidents and falls. The condyle is the most commonly fractured site, followed by the angle of the mandible.[3]

Treatment options for mandibular fractures may involve closed reduction or open reduction, utilizing nonrigid fixation with wires or rigid internal fixation with plates or lag screws. The occurrence of postoperative complications is influenced by the fracture site and may result in limited jaw mobility, difficulties in speech, and airway obstruction.[4,5]

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Material and methods

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Results

Table 1: Prevalence of mandibular fractures

Prevalence	Number of patients	Percentage
Absent	74	74
Present	26	26
Total	100	100

In this study, mandibular fractures were present in 26 subjects. Hence, the prevalence of mandibular fractures was 26%.

Table 2: Location of mandibular fractures

Location of mandibular fractures	Number of cases	Total
Body	12	46.15
Angle	06	23.07
Ramus	04	15.3
Coronoid process	02	7.69
Symphysis	01	3.84
Condyle	01	3.84
Total	26	100

The most common type of fracture was body fracture, accounting for 12 cases. Other fractures were located at the angle, ramus, coronoid process, symphysis and condyle, accounting for 6, 4, 2 and 1 case each, respectively.

Discussion

Mandible fractures are regularly encountered by plastic surgeons and account for a significant portion of maxillofacial injuries. The majority of adult mandible fractures in the United States are related to interpersonal violence, most frequently in men aged 18 to 24 years old. A review of 13,142 patients noted that men have a fourfold higher incidence of mandibular fractures with nearly 50% arising from assault. In contrast, women sustain mandible fractures more commonly from motor vehicle accidents (MVAs) and falls.[6-8]

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Natu SS et al.[9]This study was undertaken to study mandibular fractures clinicoradiologically with an aim to calculate incidence and study pattern and the commonest site of fractures in population in and around Lucknow. Patient presenting with history of trauma at various centers of maxillofacial surgery in and around Lucknow were included in this study. Detailed case history was recorded followed by thorough clinical examination, and radiological interpretation was done for establishing the diagnosis and the data obtained was analyzed statistically. Out of 66 patients with mandibular fractures, highest percentage was found in 21–30 years of age with male predominance. Road traffic accidents were the most common cause of fracture with parasymphysis being commonest site. Commonest combination was parasymphysis with subcondyle. There was no gender bias in etiology with number of fracture sites. The incidence and causes of mandibular fracture reflect trauma patterns within the community and can provide a guide to the design of programs geared toward prevention and treatment.

Adi M et al.[10]A retrospective study was undertaken to assess mandibular fractures presenting over the period 1977-1985 in Dundee, Scotland. The data collected included age, sex, aetiology, month in which injury occurred, anatomical site of fracture, associated maxillofacial trauma and treatment modalities. The majority of fractures were sustained by males in the age group 20 to 29 years. Assault was the major cause of trauma followed by falls and road traffic accidents. The posterior body region was found to be the most common fracture site in the mandible. The level of such trauma has more than doubled, since a similar study was undertaken between the years 1961 to 1970.

Conclusion

In this study, the prevalence of mandibular fractures was 26%. The most common type of mandibular fracture was body fracture.

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