

Pattern of Maxillofacial Trauma in Patients Reporting at Liaquat University Hospital Hyderabad

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ABSTRACT

Objective: The aim of present study was to evaluate the pattern of maxillofacial trauma in patients reporting at Liaquat University Hospital Hyderabad.

Study Design: Observational / descriptive / cross sectional study

Place and Duration of Study: This study was conducted at the Oral and Maxillofacial Surgery Outpatient Department of Liaquat University Hospital from 01-01-2014 to 31-12-2015.

Materials and Methods: This study was to analyze the age, gender and site of facial fracture of patients due to road traffic accidents, assault, falls, gunshot and sports injuries. Data relating to 136 patients was collected. The diagnosis of the maxillofacial trauma was done on the basis of history, clinical features and appropriate radiographs. All the relevant information was recorded on proforma.

Results: Most prevalent age of trauma was 21-30 years teenagers, male 104 (76%) outnumbered the female 32 (24%) with ratio of 4:1. The most common fractured bone of midface was zygomatic bone n=52 (38.3%) and the most common region of mandibular fracture was parasymphysis n=34(25.0%).

Conclusion: Trauma is a main cause of fracture of facial bones especially in the young male population of Pakistan. Zygomatic bone fracture and parasymphseal regions are most common fracture site.

Key Words: Trauma, Injury, Maxillofacial injury, Maxillofacial trauma

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INTRODUCTION

Maxillofacial trauma is major cause of facial injuries worldwide¹. Patients with maxillofacial injuries are commonly presenting in medical emergencies. Mostly the leading cause these injuries are associated with multi system trauma that requires coordination with other specialties.

Pattern of maxillofacial fractures varies with geographic locations, physical activity, social, cultural, environmental factors, awareness of traffic rules and regulations and alcohol consumption².

According to previous studies done internationally assault and interpersonal violence is the main cause of facial bone fractures in developed countries followed by road traffic accidents while road traffic accidents are leading cause of maxillofacial injuries in developing countries of the world³⁻⁹.

Most frequent age group encountering maxillofacial trauma is young adults². Various studies conducted regarding pattern of maxillofacial fractures²⁻⁵, these studies shows mandible and zygomatic bone most commonly fractured.

MATERIALS AND METHODS

Present study was carried out at outpatient department of oral and maxillofacial surgery Liaquat University Hospital Hyderabad. The patients were directly admitted or referred from primary to tertiary base hospitals. This study was conducted from 01-01-2014 to 31-12-2015. This study was done on 136 patients presenting with maxillofacial injuries to analyze the age, sex, anatomical location of facial injuries. The male and female patients of any age with clinically evident sign and symptoms of facial bones fractures and with radiographic evidence were included in the study. Medically compromised patients, previously maltreated patients and patients reporting after one month of injury and patients with associated other facial skeletal fractures were excluded. The diagnosis of the maxillofacial trauma was done on the basis of history, clinical findings and appropriate radiographs. Age, gender and site of trauma was recorded on proforma. Data analysis was done in statistical program for social sciences (SPSS) version 15.0 on computer. The frequency and percentage was computed for qualitative variables, like gender. Mean± standard deviation was

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computed for qualitative variables, like age. No inferential test applied due to descriptive statistics.

RESULTS

The results of our study are described in sequence of the objective. Description of separate result is shown in tables.

Gender And Age: Table-1 shows gender distribution male predominance with female, male n=104 (76%) and female n=32 (24%). Mostly young group affected in road traffic accident (20%). The ratio over all 4:1 is male and female.

Mid Face of Fracture: Table-2: The fracture of midface mostly zygomatic bone complex bone effected n=52 (38.3%), Lefort-I n=14(10.3%), Lefort-II n=24 (17.6%) Lefort-III n=24 (17.6%), Zygomatic arch n=10(7.3%), others n=12(8.9%).

Table No.1: Age and gender distribution (n=136)

| Age group (years) | No. of Male | No. of Female | Total (No) | % |
|-------------------|-------------|---------------|------------|-------------|
| 1-10 | 7 | 01 | 8 | 6% |
| 11-20 | 13 | 05 | 18 | 13% |
| 21-30 | 21 | 07 | 28 | 20% |
| 31-40 | 20 | 07 | 27 | 19% |
| 41-50 | 16 | 04 | 20 | 15% |
| 51-60 | 13 | 04 | 17 | 13% |
| 61-70 | 07 | 02 | 09 | 7% |
| 70-80 | 07 | 02 | 09 | 7% |
| TOTAL | 104 | 32 | 136 | 100% |

Table No.2: Mid face fracture (n=136)

| Location | No. of mid face # | Percentage |
|---------------------|-------------------|-------------|
| Le fort-I # | 14 | 10.3 |
| Le fort-II # | 24 | 17.6 |
| Le fort-III # | 24 | 17.6 |
| Zygomatic complex # | 52 | 38.3 |
| Zygomatic arch | 10 | 7.3 |
| Other | 12 | 8.9 |
| TOTAL | 136 | 100% |

Table No.3: Mandibular fracture (N=136)

| Location | No. of Mandibular | Percentage |
|---------------------------|-------------------|-------------|
| Symphyseal # | 26 | 19 |
| Para symphyseal # | 34 | 25.0 |
| Body of mandibule | 14 | 10.2 |
| Angle of mandibular | 24 | 17.6 |
| Condylar # & sub condylar | 30 | 22.0 |
| Coronoid # | 5 | 3.6 |
| Ramus # | 5 | 3.6 |
| TOTAL | 136 | 100% |

Mandibular Fracture: Table-3: The mandibular fracture more common than maxilla sympheseal n=26 (19%). The parasymphseal n=34(25.0%), Body of mandible n=14(10.2%), angle of mandible n=24 (17.6%), Condylar and sub region n=30(22.0%), coronoid n=5(3.6%), Ramus of mandible 5(3.6%), the parasymphseal region is more common fracture than other sites of mandible.

DISCUSSION

This study is depending on subject utilizing the population of Hyderabad city. The gender distribution of the reported cases describes that male n=104 (76%) representing the facial fracture and female n=36 (32%). This 4:1 ratio of male preponderance can be explained by the fact that the majority of such fractures result from road traffic accident, assault, falls, sports injury etc where men are more commonly involved. We have study the low ratio of female also because of Islamic culture and relative inactivity of females in the socio economic life. This ratio is comparable to those reported by Abbas¹⁰, Adebeyo EO¹¹, Zakai MA¹² and Hitchison¹³, However it is different from reported by Anwar¹⁴, Zubair Khan¹⁵. Zia-ul-Haq¹⁶ et al male more prone to facial fractures, which may be due to their participation in outdoor activities.

The predominant age group in our study is teenagers 21 to 30 years. This result is almost same as a previous studies done by Cheemaand Abbas.¹⁷⁻¹⁸The young adult is more actively involved in outdoor activity during this period of life e.g. social activities, sports, high speed transportation. Which make them more vulnerable due to this dominant role in outdoor activity especially in our society, where males play dominant role in all socioeconomic activities. In rural areas where illiteracy is more assault and Karokari revenge more effected to female.

The fracture of midface was mostly zygomatic bone n=52 (38.3%) especially Lefort-II n=24 (17.6%) and Lefort-III n=24 (17.6%) was commonly found in our study. While in mandibular fractures the parasymphseal n=34(25.0%), region was found more common site of fracture than other sites of mandible in our study. While another study done by Bart Van Den Berg⁵ et al found, the main fracture site of the mandible was the combination of body with condyle of mandible (26.8%), followed by the combination of bilateral condylar along with fracture of the symphysis of mandible (17.5%). In fractures of the middle 1/3 of the face, zygomatic bone fractures were most common⁵. Another study done by Muhammad HoseinKalantar Motamedi¹⁹ regarding distribution of site of mandibular fractures, 32% occurred in the condyle, 29.3% in the symphyseal-parasymphyseal area, 20% in the angle of mandible, 12.5% in the body, 3.1% in the ramus, 1.9% in the dentoalveolar, and 1.2% in the coronoid region. The distribution of maxillary fractures

was Le Fort II in 18 (54.6%), Le Fort I in 8 (24.2%), Le Fort III in 4 (12.1%), and alveolar in 3 (9.1%). here were 150 (51%) mandibular, 102 (34%) maxillary, and 22 (7.4%) zygomatic fractures. Ahmed et al²⁰ found regarding distribution of mandibular fractures, the majority (25%) occurred in the condyle, 23% in the angle, and 20% in the body. The distribution of maxillary fractures were 49.0% dentoalveolar, 29.4% Le Fort I, and 10.7% were Le Fort II fractures.

CONCLUSION

Trauma is main cause of facial injuries especially in the young male population of Pakistan. In midface Zygomatic bone fracture and in mandible parasymphseal regions are most common fracture sites.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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