

A Retrospective Analysis of Maxillofacial Fractures in Patients Admitted to a Tertiary Care Hospital in Guwahati, Assam, India

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Abstract: ***Aims and Objectives:** Maxillofacial fractures are a frequently encountered trauma in tertiary care hospitals. This study aims to provide a two year retrospective analysis of maxillofacial fractures in patients admitted to a tertiary care hospital in Guwahati, Assam, India. **Materials and Methods:** The study was conducted in the Department of Plastic Surgery, Gauhati Medical College, Guwahati, Assam. The sample consisted of 62 patients admitted in the department from 1st August 2014 to 31st July 2016. Age, gender, etiology, site of fracture and treatment given to them are the parameters evaluated. **Results:** The maxillofacial fractures were observed in the age group ranging from 5-50 years with peak incidence in 21-30 years age group with males outnumbering females. Road traffic accident was the most common cause for maxillofacial fractures. Mandibular fractures were the most common injuries. Open reduction and internal fixation (ORIF) with miniplate was the most widespread treatment modality used but maxillo-mandibular fixation (MMF) and conservative management of the fractured bones were also tried. **Conclusion:** Road traffic accident was the most common cause for maxillofacial fractures. Periodic review of driving skills and stricter implementation of traffic rules is a must to minimize the incidents of maxillofacial fractures.*

Keywords: Maxillofacial fractures, Open reduction and internal fixation (ORIF), Maxillo-mandibular fixation (MMF)

1. Introduction

Human face is an important part both aesthetically and functionally. Maxillofacial fractures are commonly encountered in road traffic accidents (RTA) and assault cases. The number of maxillofacial fractures is continuously increasing due to rise in road traffic accidents. Maxillofacial fractures can occur as an isolated injury or may have associated head, chest, abdominal, spinal and extremity injuries. Maxillofacial fractures are a frequently encountered trauma in tertiary care hospitals. This study aims to provide a two year retrospective analysis of maxillofacial fractures in patients admitted to a tertiary care hospital in Guwahati, Assam, India.

2. Materials and Methods

This study is a retrospective study. It was conducted in the Department of Plastic Surgery, Gauhati Medical College, Guwahati, Assam, India. The sample consisted of 62 patients admitted with maxillofacial fractures in the department from 1st August 2014 to 31st July 2016. Age, gender, etiology, site of injury and treatment given to them are the parameters evaluated. Treatment modalities given were open reduction and internal fixation (ORIF) with miniplate, maxillo-mandibular fixation (MMF) and conservative.

3. Results

Age distribution: The maxillofacial fractures were observed in the age group ranging from 5-50 years. Peak incidence was seen in 21-30 years age group (24 cases).

Table 1: Age distribution of patients in our study

Age group	1-10 yrs	11-20 yrs	21-30yrs	31-40yr	41-50 yrs
Number of patients	1	15	24	19	3

Gender distribution: Males outnumbered females in case of maxillofacial fractures. 60 patients out of 62 (96.78%) were male. The male to female ratio was 30:1.

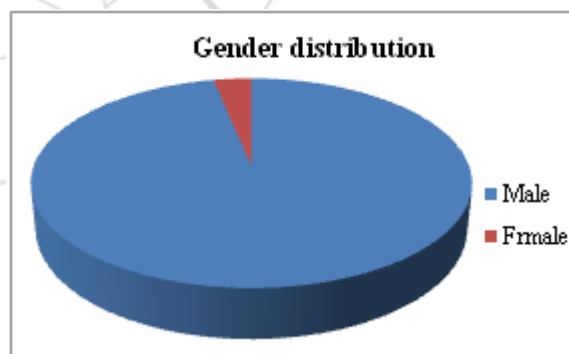


Figure 1: Pi diagram showing gender distribution of patients.

Etiology of fracture: Road traffic accident (RTA) was the most common cause of maxillofacial fractures. It was the cause in 55 patients (88.70%). Other causes were fall from height in 4 patients (6.45%) and assault in 3 patients (4.83%).

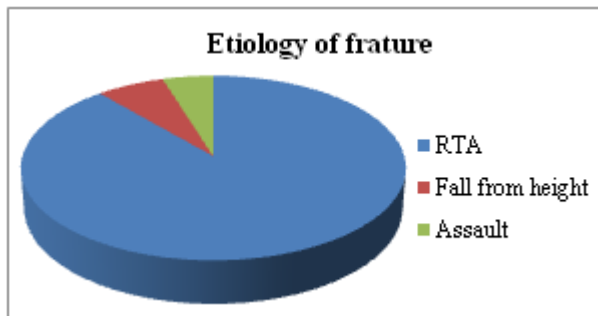


Figure 2: Pi diagram showing etiology of fracture in our study.

Site of fracture

Mandible was the most common fracture site (46 patients – 74.19%). Isolated mandibular fracture was seen in 42 patients (67.74% of total patients). Combined mandibular,

zygomatic and maxillary fractures were seen in 4 patients (6.45% of total patients). Zygomatic and maxillary fracture without mandibular involvement was seen in 16 patients (25.80%).

4. Treatment Modalities

Most of the patients were treated by open reduction and internal fixation (ORIF) with miniplate. ORIF was done in 55 patients (88.70%). Maxillo-mandibular fixation (MMF) was done in 4(6.45%) and conservative management in 3 (4.38%) patients. Results were satisfactory in most of the patients. 6 patients presented with minor occlusal discrepancy during early postoperative period which was managed by MMF.



Figure 3, 4: Preoperative photo and CT scan showing mandible fracture in a patient



Figure 5, 6: Post operative (post ORIF) photo and OPG of the same patient

5. Discussion

The age distribution pattern in maxillofacial fractures showed that young people were affected most. The peak incidence was observed in 21- 30 years age group which is consistent with observation of various other studies [1,2,3,4].

The gender distribution revealed higher frequency of maxillofacial fractures among male compared to female as has been observed in other studies [1,2,3,4,5,6,7,8].

In our study road traffic accident (RTA) appears to be the most common cause of maxillofacial fractures which is relevant to the findings of most of the studies [1,3,4,5,6,7,8,9,10,11].

Among the facial bones mandible was the most common site of fracture which correlate the findings of other studies [1,2,3,5,7,8,10].

Open reduction and internal fixation (ORIF) with miniplate was the principal treatment modality advocated as in other studies [1,10,12].

6. Conclusion

Maxillofacial skeleton is prone to traumatic fractures. Results of this study exhibit that road traffic accidents (RTA) is the most common cause of maxillofacial fractures. So periodic review of driving skills and stricter implementation of traffic rules is a must to minimize the incidents of maxillofacial fractures.

7. Place of work

Department of Plastic surgery, Gauhati Medical College

8. Conflict of Interest

None

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