

## Prevalence And Patterns of Maxillofacial Trauma in South India - A Retrospective Study For Seven Years.

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**Abstract:** Maxillofacial trauma is a complex fracture involving jaws and dentition. Documentation of these fractures are of paramount importance for improving patient care and development of infrastructure especially roads. A descriptive cross sectional study was conducted in Rajaji gov. Hospital, Madurai for seven years from 2011 to 2017 to analyse the patterns and prevalence of maxillofacial trauma. Patients demographic and clinical data were retrieved and analysed using Ms Office excel 2007. The results shows that males suffered more fractures than females, the most common aetiology of trauma being RTA, MTW (motorised two wheelers) and the most common fracture reported in this region is mandible.

**Keywords:** maxillofacial trauma, mandible, maxilla, prevalence, zygoma.

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### I. Introduction

Maxillofacial trauma are encountered routinely in emergency medicine departments and dental colleges in India. The aetiology of maxillofacial trauma in India differs from region to region due to difference in topography, increased urbanisation and socio economic factors. Introduction of high speed engines in two wheelers, alcohol addiction and disproportionate increase in two wheeler for the available roads are seen as major causative actor for increase in maxillofacial trauma in India. Documentation of prevalence and patterns from various parts of India and throughout the world is essential for dissemination of knowledge, to see the trends in trauma from various parts of the world and for the analysis of aetiology and treatment patterns. A descriptive cross-sectional study was done in Govt. Rajaji hospital, Madurai Medical college to analyse the prevalence and patterns of maxillofacial fractures.

### II. Aims And Objectives

To determine the prevalence and patterns of maxillofacial trauma among treated patients of maxillofacial trauma in government rajaji hospital, Madurai medical college.

### III. Materials And Methods

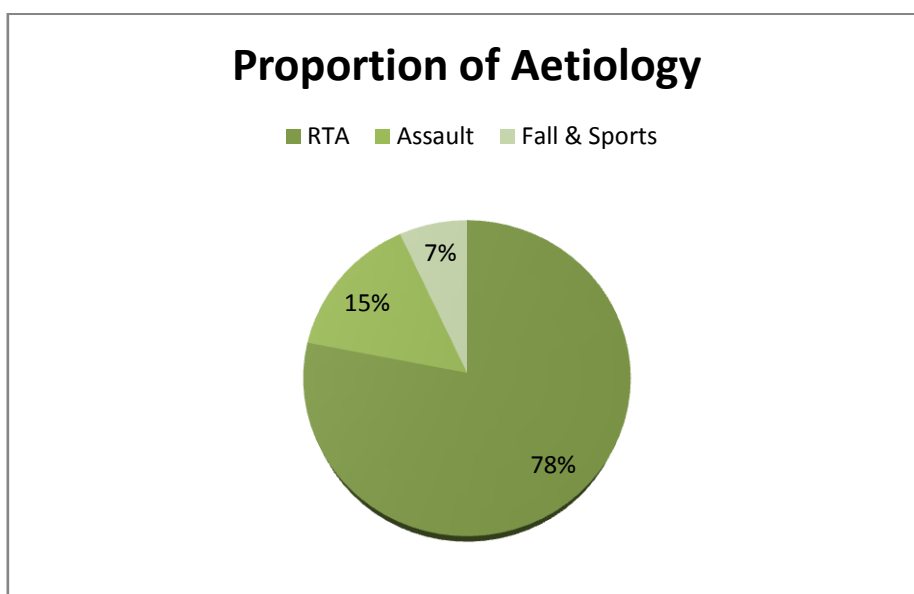
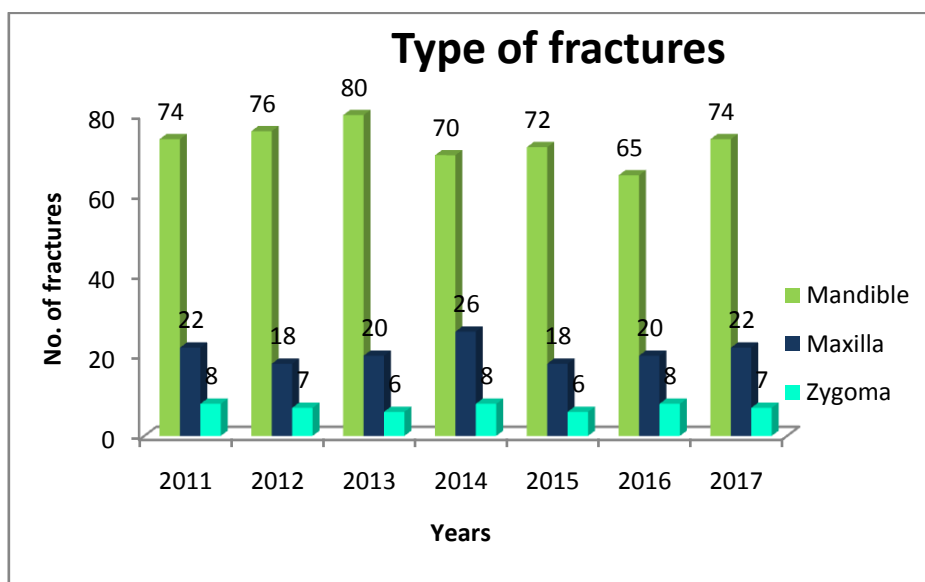
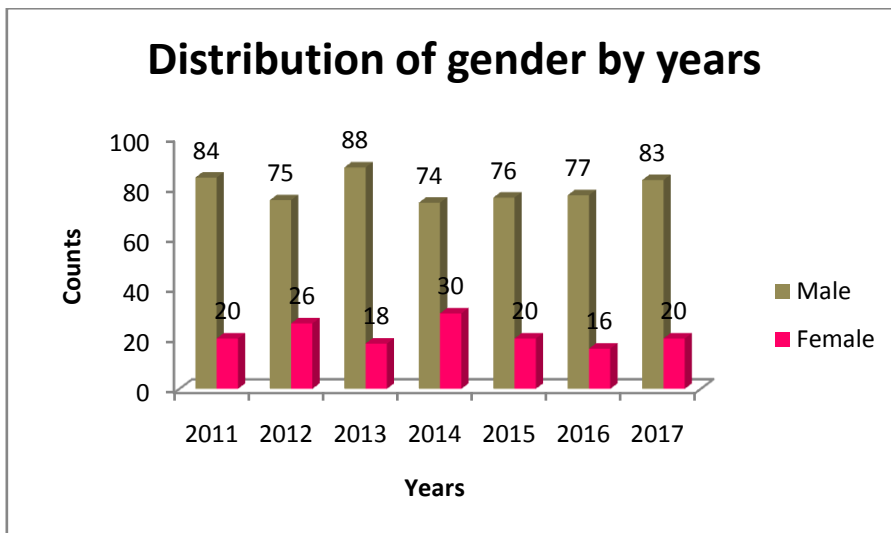
Case records of patients who were treated by ORIF under GA were retrieved and analysed for demographic data, types of fracture and aetiology or trauma from march 2011 to march 2017.

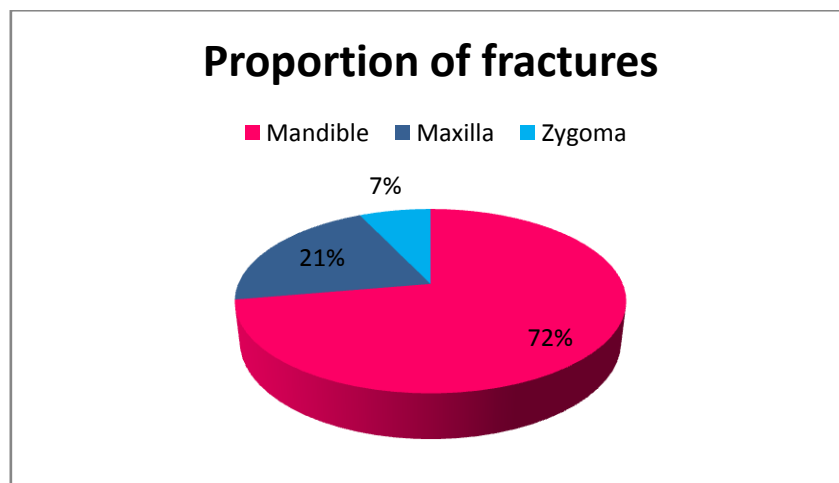
#### 3.1 Inclusion criterion:

1. age group of 18 to 65 yrs.
2. fractures treated by ORIF under GA.

#### 3.2 Exclusion criteria:

1. dentoalveolar fractures
2. paediatric fractures
3. fractures treated by closed reduction and
4. fractures treated by conservative management.
5. All patients fulfilling the above criteria were included in the study and no specific sampling method were used
6. The data retrieved were entered in Microsoft office excel 2007 and analysed.





#### IV. Results

The results had shown that the proportion of males(79%) suffered maxillofacial fractures more than females (21%) . The peak age of incidence being 20 to 40 yrs. The most common aetiology was found to be RTA(78% ) followed by assault(15%)and then followed by fall from height and sports injury. The type fracture that was most common was mandible(72%), maxilla(21%) and then zygoma including the arch(7%).

#### V. Discussion

The region from frontal bone to the mandible is maxillofacial region .Face being the most exposed part with paper thin bones to protect the cranium are prone for trauma.RTA leads to mortality and morbidity worldwide especially in younger population. Trauma is the leading cause of death in people less than 40 yrs<sup>1</sup>.20 to 60% of any RTA involves fractures in maxillofacial region and out of which 62% is due motorised two wheelers<sup>2</sup> .Rajaji hospital ,Madurai medical college is the tertiary care hospital and referral centre for complex maxillofacial trauma in district head quarters of Madurai , Tamilnadu, south India. Our study shows male (79%) preponderance for the fracture than females(21%) and this is in concurrence with studies from other parts of the world<sup>3,4,5</sup>.This may be due to increased social, sporting activity and extensive travelling for commuting to work place from urban areas. The male preponderance is also due to increased alcohol addiction in males and driving MTW under the influence of alcohol. Studies by Singh et al<sup>6</sup> Agnihotri et al<sup>7</sup> and Prabhu et al<sup>8</sup> clearly established the fact that driving under the influence of alcohol increased the incidence of maxillofacial fractures.The most common aetiology found in our study was RTA(78%) especially two wheelers (MTW).This may be self fall from the bike due to inability to control the speed [ due to bad bumpy roads with pot holes, by hitting on animals in the road(stray dogs and cattle)], collision with other two wheelers and four wheelers. The second common most reason is interpersonal assault (15%) in males and domestic violence in females . Studies across the world had proved that 34% to 73% of maxillofacial trauma in females is due to domestic violence<sup>9</sup> . As far as proportion of maxillofacial fractures are concerned the study revealed that fracture mandible(72%) as the most common fracture [this included symphysis, parasymphysis, body , angle ,ramus and condylar fractures].The second most common being maxilla(21%)[Lefort 1,2, 3 and the orbit ]and the third most common was the zygoma(7%)[both ZMC and the arch].This in contrary with the studies from various parts of the world which depicts zygoma<sup>10,11</sup> as the most common fracture type. Increase in fracture mandible may be attributed for not wearing the helmets by the trauma victims.

#### VI. Conclusion

The descriptive cross-sectional study from Madurai medical college clearly revealed the prevalence of maxillofacial fractures with male preponderance for maxillofacial trauma, RTA as the most common aetiology and mandible as the commonest fracture treated in this centre. These types of studies are valuable from different regions of the country and worldwide for improving the resources for treatment of these life threatening injuries , prevention strategies , improvement of roads and enforcement of strict traffic rules .

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