

Analysis of Pattern of Trauma in Maxillofacial Surgery: Retrospective Study.

Syed Ahmed¹, Dr. Gopal L Nagargoje², Amol Dohipoide³, Shraddha B Patil⁴, Ashutosh P Dod⁵

¹Professor & HOD, ²Lecturer, ³Reader, ^{4&5} P.G. Student

Department of Oral and Maxillofacial Surgery, MIDSR dental college, Latur, India.

Abstract:

Fractures of the facial skeleton are common following road traffic accidents, assault, falls, and sporting injuries. Aim of the present study is to analyze the incidence and pattern of maxillofacial trauma (fractures) based on etiology, age, sex and site.

This Study was conducted in MIDSR Dental college, Latur between January 2013 to December 2017. Total 546 patients were treated, out of which mandibular fractures (76.38%) were more common than mid face fractures (23.62%). In mandibular fracture parasymphysis (57.7%) fracture was most common followed by angle (18.3%) and body fractures (5.8%). Most injuries were caused by Road Traffic Accidents (77.5%) than assault and fall (22.5%). Most of the patients were in the age group 20-30 (40.65%) with Male to Female ratio 6:1

Key words: Maxillofacial trauma, Retrospective study, Road traffic accidents

Corresponding Author: Dr.Ahtesham Ahmad, Reader, Dept. of Oral and maxillofacial surgery, MIDSR Dental College, Latur. Email id.: drahtesham007@yahoo.co.in

INTRODUCTION

Face is an important structure in the body because of its functional, aesthetic and social value, so trauma to the maxillofacial region require special attention.(1,2) Maxillofacial region involves the soft and hard tissues forming the face extending from frontal bone superiorly to the mandible inferiorly. Trauma to the facial region causes injuries to the skeletal components, dentition as well as soft tissues of the face.(3,4)

Fractures of the facial skeleton are common following road traffic accidents, assault, falls, and sporting injuries. The frequency of fractures of the mandible, zygomatic complex and maxilla has been reported in a ratio of 6:2:1. Surveys of facial injuries have shown that the etiology varies from one country to another and also within the same country depending on the socio-economic, cultural and environmental factors.(5,6)

In the more economically advanced countries, maxillofacial injuries are more often caused by interpersonal violence in the form of fights, assaults and gunshot injuries. Studies from most developing countries have shown that road crashes are the predominant cause of maxillofacial trauma.(7)

The purpose of this study was to evaluate the pattern, frequency and mechanism of maxillofacial injuries in a peripheral city of Maharashtra, India with a population of 5 lacs, over a period of 5 years.

MATERIAL AND METHODS

Over the period of 5 years, 546 patients with maxillofacial trauma reporting to Yashvantrao Chavan rural hospital, Latur were the part of the study. All the relevant data of the patients were retrieved from the case record section of MIMSR medical college and department of oral and

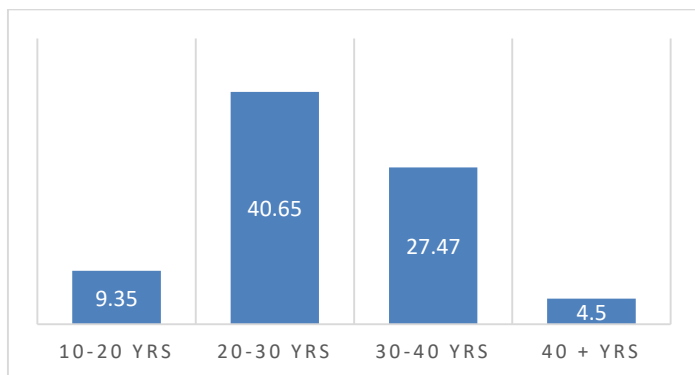
maxillofacial surgery, MIDSR dental college, Latur. The diagnosis of fracture is based on the clinical history, signs and symptoms, visual findings, manual examination and correct interpretation of radiographs.

All the patients were reviewed for age, gender, etiology, site and associated injuries of maxillofacial trauma. Age groups are divided into 10-20 year, 20-30 year, 30-40 year and age group more than 40 years. Etiology of maxillofacial fractures were divided into road traffic accident or RTA (two wheeler or four wheeler), assault and others (fall, sports injury). The site of maxillofacial trauma divided into midfacial fracture (zygomatic maxillary complex fracture, Naso-Orbito-Ethamoidal and Lefort I, II, III fracture) and mandibular fractures (Symphysis or parasymphysis, body, angle, coronoid, condyle, ramus and dentoalveolar fracture).

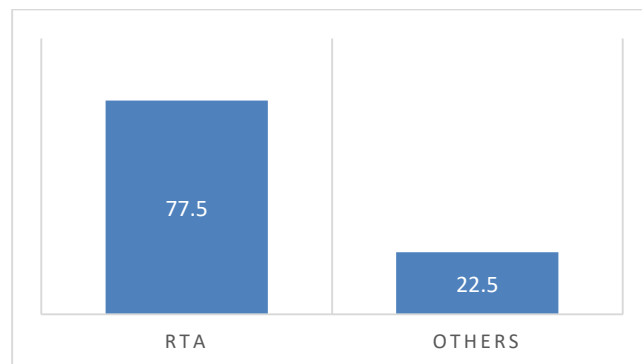
RESULT:

The data of the study was analysed on percentage basis. Most of the patients were in the age group of 20-30 years (40.65%) (Graph-1). There was predilection of Male patient's (87.36%) as compared to Female patient's (12.64%) in maxillofacial trauma and the male to female ratio (M:F) was 6.91:1 (Graph-2).

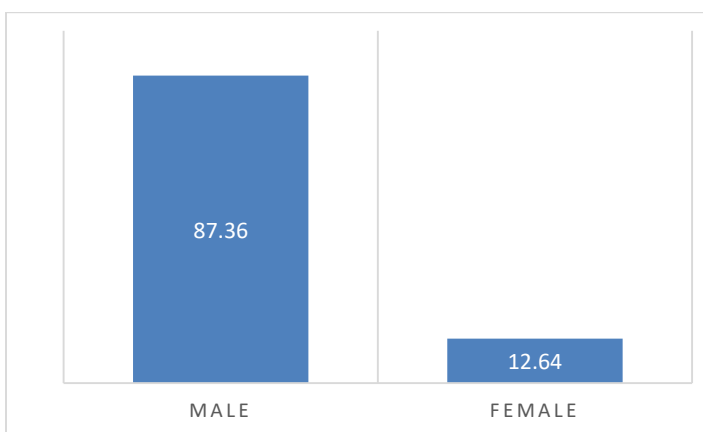
The most common etiological factor in our study was road traffic accident (RTA) (77.5%) (Graph-3). The frequency of mandibular fractures was high (76.38%) as compared to other bone fracture (Graph-4). In mandibular fractures, the most common site was symphysis and parasymphysis fractures (57.7%) followed by angle fracture (18.3%) (Graph-5). In midface fracture, the zygomatico-maxillary complex fracture was the common (64.8%) (Graph-6).



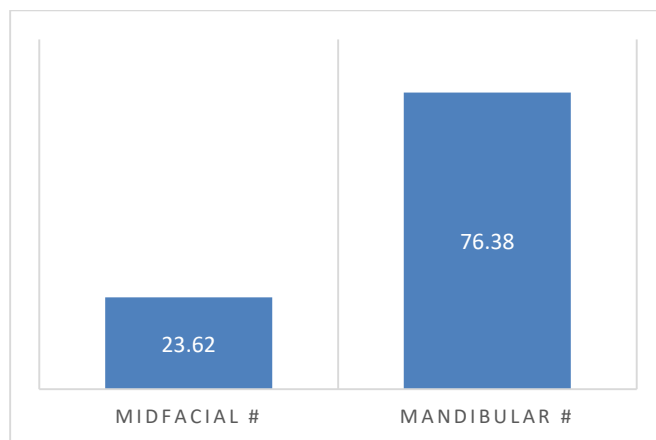
Graph-1 (Age groups distribution)



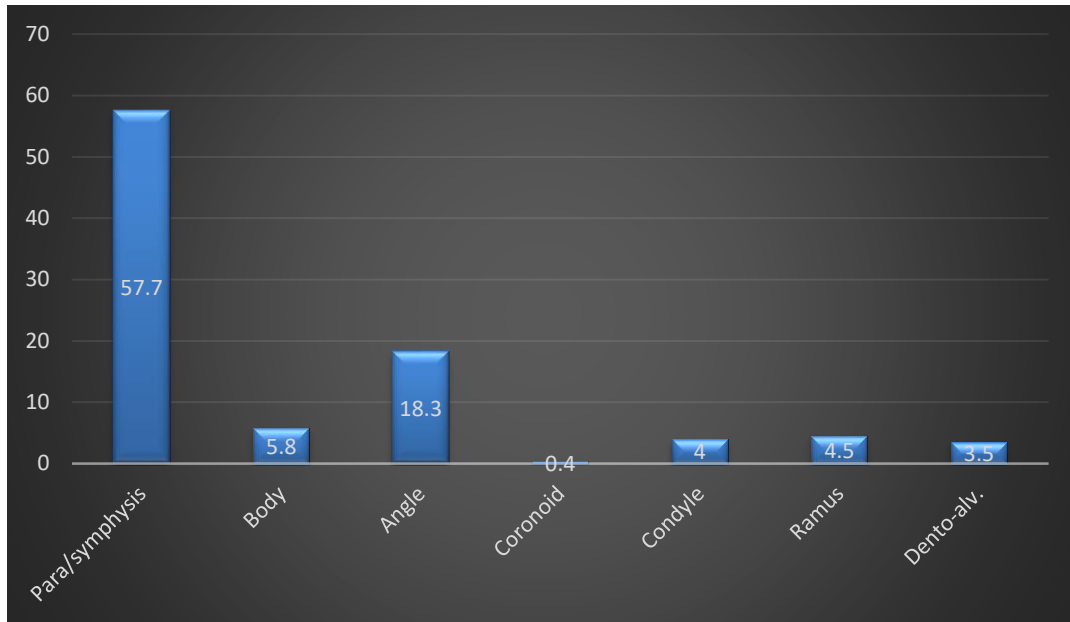
Graph-3 (Etiology)



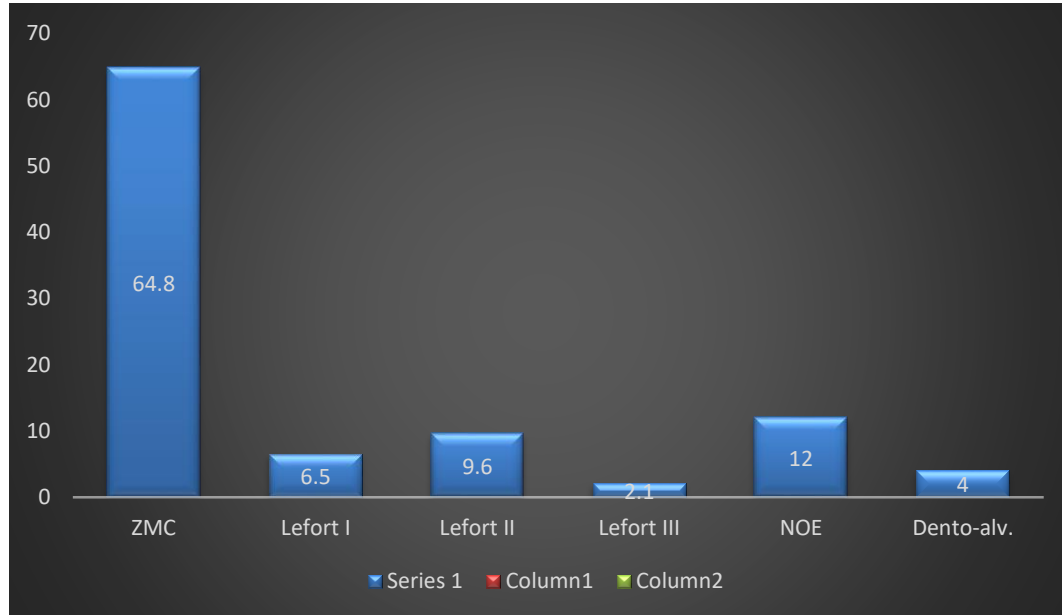
Graph-2 (Gender distribution)



Graph-4 (Fracture site)



Graph-5 (Mandibular fracture sites)



Graph-6 (Midfacial fracture sites)

DISCUSSION

Most of the patient's in our study were in the age group of 20-30 years which is in agreement with most of the studies (3,8,9,10) but in contrast to some studies.(11,12) The reason behind maxillofacial injuries attributed more in the third decade, probably the peoples in this group are more active regarding sports, fights, violent activities.

The male predominance in our study agrees with what is reported in the literature.(2,11) Males are at high risk due to more participation in high risk activities which increases their exposure to risk factors such as driving, sports, alcohol consumption.

According to this study, The most common etiological factor for maxillofacial trauma was road traffic accident which is similar to other studies in developing countries.(3,11,13,14) but in contrast to some studies performed in developed countries which reported assault is the common cause for maxillofacial injuries.(15,16)

Mandibular fracture was the most common type of bone injury, similar finding was also reported by other studies.(13,14,17) As Mandible being the most prominent bone of face, so often fractured than strongly supported middle third of face.

In this study, among the mandibular fracture sites, symphysis/parasymphysis was the common site. The cause of injury reflects the direction of force applied to the mandible.

In midface fracture, the zygomatico-maxillary complex fracture was common, this was due to the prominent position of zygoma and nasal bone are more vulnerable to trauma.

CONCLUSION

Road traffic accidents were found to be the primary etiology for maxillofacial injuries including the fractures, with majority of the cases being observed with males. To avoid this, we recommend more stringent road traffic rules, awareness with civil behaviors like improved usage of seat belts and no drinking and driving and better conditions of roads.

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