

Epidemiological Analysis of Maxillofacial Trauma in Patients of Road Traffic Accidents

Gurbax Singh¹, Gurleen Kaur², Jai Lal Davessar³, Vikas Goyal⁴

ABSTRACT

Introduction: Maxillofacial trauma is without doubt a most challenging area. Injuries to face are common but the majority are relatively minor in nature and these can result from sporting activities, accidents and intentional violence. It must always be remembered that an intact and unscarred face is important to the well being of the individual and thus all injuries should be treated carefully. Despite the many advances in our understanding of tissue healing, biomaterials and surgical techniques, the initial assessment and the timing and undertaking of management of facial injuries in the early stages have remained a difficult area of patients care.

Materials and method: The present study was conducted on 75 patients in the department of ENT of Guru Gobind Singh Medical College and Hospital Faridkot

Results: The observations were recorded during their stay in the hospital, special attention was paid to record age, sex, causes of injuries, site and nature of injuries, prominent signs/symptoms, complications and radiological findings

Conclusion: Appropriate and timely management of facial injuries becomes even more challenging following high velocity trauma, when significant injuries elsewhere may, or may not, take priority. Management of the multiply injured patient requires a co-ordinated multi-disciplinary approach in order to optimize patient's outcome

Keywords: Motor vehicular accidents; maxillofacial trauma, nasal fractures

fracture or deform the nasal septal cartilage, whereas greater forces may cause fractures of the nasal bone or facial skeleton involving the paranasal sinuses. There can be a simple crack of the nasal bone without displacement but greater force may result in deviation of the bony nasal complex laterally. A blow directly from the front may depress the bony pyramid or cause a commuted fracture and widening of the bridge of the nose. Violent trauma to the frontal area of the nose can result in a fracture of the frontal and ethmoid sinuses extending into the anterior cranial fossa.³

Injuries to face are common but the majority are relatively minor in nature and these can result from sporting activities, accidents and intentional violence. It must always be remembered that an intact and unscarred face is important to the well being of the individual and thus all injuries should be treated carefully. Even trivial blow to the face may cause injuries that compromise the airway, directly or indirectly cause a head injury.⁴

Gassner et al studied patients with cranio-maxillofacial trauma. The study differentiated between injury mechanisms in cranio-maxillofacial trauma. They stated that in facial trauma, older persons are prone to bone fractures (increase of 4.4%/year of age) and soft tissue injuries (increase of 2%/year of age) while younger persons are more susceptible to dentoalveolar trauma (decrease of 4.5%/year of age).⁵

The present study is therefore undertaken to evaluate the clinicoradiological profile of the patients having maxillofacial trauma admitted in GGS medical college and Hospital, Faridkot.

INTRODUCTION

Injury is the commonest cause of death among people aged 1-34 years, a leading cause of disability and a major contributor to health costs. WHO data suggests that 1 in 10 deaths worldwide is the result of an injury. Currently 5 of the leading 25 causes of mortality are injuries, however the probability of death from trauma varies widely by region sex and age. Injuries from violence account for about 6% of deaths in developed countries whereas 13% of deaths in developing countries. The majority of deaths from trauma occur in economically productive age groups in persons aged between 14-44 years and male to female ratio for deaths from violence is 2:1. Deaths due to trauma are predicted to rise by 65% by the year 2020, by which road traffic accidents will be 3rd most important cause of death worldwide.¹

Aldman in an analysis of road-accidents mentioned that although trauma is a significant cause of death, perhaps its most tragic aspect is the disability, suffering and economic wastage that results.²

Trauma to nose is commonly sustained in sports injuries, street fights and road traffic accidents. Moderate trauma may

MATERIAL AND METHODS

The present study was conducted in the department of ENT of Guru Gobind Singh Medical College and Hospital Faridkot. A total of 75 cases were studied who were admitted in ENT department or various other departments for whom ENT consultation was called for. The observations were recorded as per proforma attached. During their stay in the hospital, special attention was paid to record age, sex, causes

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of injuries, site and nature of injuries, prominent signs/symptoms, complications and radiological findings

RESULTS

This prospective study of profile of patients having ENT trauma admitted in GGS Medical College and Hospital, Faridkot has been carried out on 75 patients, admitted either in ENT department or various other departments for whom ENT consultation was called for from Jan very 2012 to June 2015. The following observations were made.

Majority of the victims (74.6%) were in the prime of their active life i.e. between 16 to 45 years. (fig 1)

Majority of patients i.e. 64 admitted with ENT trauma were males and comprised 85.3% of the total. The remaining 11 patients i.e. 14.66% of the total were females. Male to female ratio was 5.8 to 1.(fig 1)

Our study shows majority of roadside accidents (84%) were because of motor vehicular accident, followed by bicyclists and Pedestrians injuries. (fig 2)

Nasal bleed was the most common symptom present in 40 patients comprising 83.3% of the total followed by headache in 18 (37.5%) and diplopia and blurring of vision were the least commonly present in 1 patient each, amounting to 2.08%. Rest of the symptoms were shown as nasal obstruction 12 (25%), sneezing 3 (6.25%), dysphagia 2 (4.16%) and trismus 2 (4.16%). Nasal bleeding was present in patients having injuries to the nose and maxillo facial injuries.

DNS and local tenderness/pain were the commonest sign presenting in 38 patients (79.16%) out of total 48 followed by nasal deformity presenting in 25 (52.08%). Most of the signs such as DNS and local tenderness/pain were present in patients with nasal injuries.(fig 3)

Out of the total 75 patients who sustained facial injuries, 57 were having evidence of fracture/fractures, as demonstrated by conventional x-ray films. The radiological profile of facial fractures was as shown in fig 4, with nasal bone fracture predominating the list i.e. 76 % followed by maxilla fractures i.e. in 40%, zygomatic, mandible and lefort fractures respectively.(fig 4)

DISCUSSION

Age Incidence

The majority of patients in our study were in the age group of 16- 30 years i.e. the most active period of an individual’s life, when he is most useful to the society and the country. This age group constituted 44% of the total. The next age group, 31 to 45 years accounted for another 30.6%. So the total number of patients in the age group of 16-45 years constituted 74.6% of the total.(fig 1)

Saidi and Kahoro observed that the mean age was 32 years with a peak incidence in the 20-30 years age group.(6)Hussain et al carried out a study on patients with maxillofacial injuries. Most were males (86%) with age ranging from 13-71 years.⁷

Sex Incidence

In this study, 64 patients (85.3%) were males and 11 i.e.

14.6% were female. Male to female ratio in our study was 5.8:1 (fig 1)

Hussain et al carried out a study on maxillofacial injuries. 86% patients were males with a male to female ratio of 6:1 (7)

Cause of Injuries

Out of the total 75, 63 (84%) were injured in a variety of motor vehicle (self and intervehicular) accidents, 7 (9.33%) were the bicyclists (self and hit by other vehicles) and 5 (6.67%) were the pedestrians. (fig 2)

Saidi and Kahoro studied clinical and epidemiological profile on automobile injuries. The predominant category of road user injuries was the vehicle occupant (70%), pedestrians constituted only 21.3%.⁶

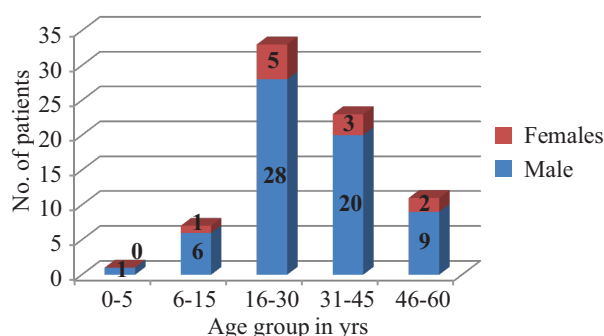


Figure-1: Age and sex distribution

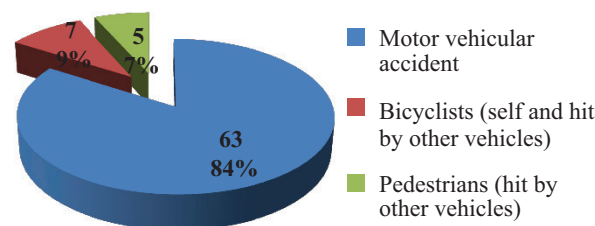


Figure-2: Analysis of road-traffic accident

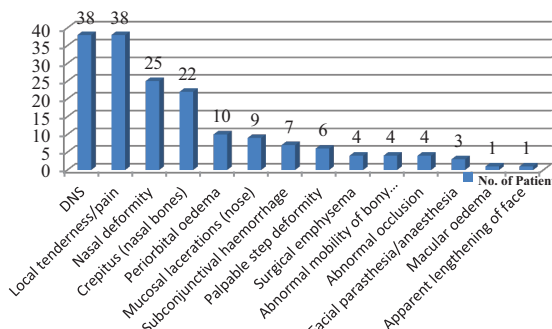


Figure-3: Signs of maxillofacial injuries

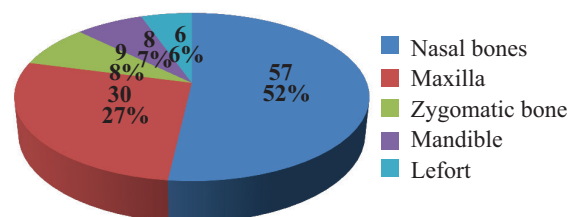


Figure-4: Analysis of facial trauma

Facial Injuries

Out of the total patients 57 (76%) had evidence of fracture/fractures on x-ray films. 18 patients had some type of soft tissue injury on face i.e. bruises, abrasions, lacerations etc. Hussain et al in their study on maxillo facial injuries found that mandible was the commonest to be involved in such injuries followed by maxilla. Most of the patients (32%) had associated facial injuries.⁷ Khan and Arif in their study on ENT injuries reported that most were in nasal region (50%) and nasal bone fracture was the commonest (26%).⁸

Radiological Profile

75 patients who sustained injuries on face, nasal bones were fractured in maximum number of patients i.e. in 57 (76%). This figure also included 6 patients having Le-forte fractures. The rest of the bony injuries on face in the order of frequency were as under: maxilla fracture in 30 (40%), zygomatic bone fracture in 9 (12%), mandible fracture in 8 (10.67%), Le-forte fractures in 6 (8%).

Hussain et al in their study on maxillo facial injury concluded that mandible was the commonest to be involved in such injuries followed by maxilla. Most of the patients (32%) had associated facial injuries.⁷ Khan and Arif in their study on ENT injuries reported that most were in nasal region (50%) and nasal bone fracture was the commonest (26%).⁸

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CONCLUSION

Road Side accidents are the commonest cause of injuries as compared to the assaults. The unruly traffic, poor condition of the Indian roads, unexpected behavior of animals on the roads, liberal use of alcohol by the heavy vehicle drivers on their long journeys inadequate drunk driving laws, lack of alcohol and drug screening and the lack of seat belt and helmet laws are the reasons in general, responsible for excessive road side accidents in our country.

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