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STUDY OF PATTERN OF MAXILLOFACIAL TRAUMA IN GMC BARAMULLA

Dental Science

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ABSTRACT

Introduction. Maxillofacial trauma is known to the mankind since time of Hippocrates. This study aims to study the patterns of maxillofacial injuries presenting to GMC Baramulla and referral from nearby hospitals and patients reffered to tertiary care hospital.
Material And Methods: Our study was conducted on 110 cases in the Department of dentistry oral surgery unit, Government Medical College, Baramulla for a period of one year from september 2019 to september 2020. Patients with trauma to face of all age groups including mid and lower third of face were included in the study. Fracture patents with associated with brain injury which required neurosurgical intervention were excluded from study. A detailed history was taken, particularly regarding mechanism, type of injury, and alcohol intake. Routine hematological and biochemical tests were done. X ray and CT scan were done to evaluate the injuries.
Observations: Road traffic accidents (RTA) was the major cause of these fractures in 70 cases (70%) which was significant (P<0.0001) followed by Fall 26 and assault observed in 9 cases. Nasal bone fracture is the most common. Maxillofacial fracture injuries are seen in all age groups and the young people mostly ages between 19-35 years were vulnerable to any type of fractures.
Conclusion: Root traffic accident is leading cause of maxillofacial injury. Youth are mostly vulnerable to maxillofacial injuries,

KEYWORDS

INTRODUCTION

The Maxillofacial bony complex includes maxilla, zygoma and nose. Face because of its conspicuous position is the most frequently traumatized site of the body.

Earliest records of facial fractures have been recorded 25 to 30 centuries before Christ. Maxillofacial trauma is very frequent, the causes of which may be road traffic accidents, fall, missile injury, assault, sports injury, etc.[1,2].In more economically advanced countries maxillofacial injuries are more often caused by interpersonal violence in the form of fights assaults,and gunshot injuries.Developing countries have shown that road crashes are predominant cause of maxillofacial trauma.

As the number of high speed accidents increases so does the complexity of injuries. The cause of maxillofacial trauma varies with age and sex.[3]. Maxillofacial trauma may occur alone or with other injuries like laryngotracheal trauma, penetrating neck injuries, cervical spine injuries, orbital injuries, chest and abdominal trauma and other skeletal injuries. The present study aims to report the various etiological factors causing maxillofacial traumas and analyze the pattern of maxillofacial injuries.

METHOD

All patients with maxillofacial injuries who reported to our department were included in study except those who require immediate neurosurgical intervention and whom needed to be transferred to tertiary care hospital. Etiologies of fractures were grouped into road traffic acciedents, fall ,violence and other causes which include sports accidents, occupational accidents and gun short related injuries. Mandibular fractures were classified as condylar, coronoid,angle, body, symphysis, parasymphysis, and dentoalveolar fractures.

In middle third of face fractures were recorded as lefort fractures zygomaticomaxillary complex fractures, nasal bone and dentoalveolar fractures (palatal) fractures.

After local examination radiological assessment was done using Iopa, orthopantogram posteroanterior view of skull, waters (paranasal sinus) view and computed tomography scan and occasionaly cone beam computed tomography were used.

RESULT

Out of total 110 cases 14 were females and 86 were males with ratio of 1:6. Most Frequent cause of injury was road traffic accident 67% followed by fall 23%. Remaining 4% were cases of assault and 4% sports injuries.

Age of patients were between 2-70 years.65% patients were of age group between 18 -35 years.

Among maxillofacial fractures nasal fractures were most common followed by fracture of mandible.In midface fracture zygoma fracture were most common after nasal bone fractures. Fractureof mandibular condyle most common fracture followed by parasymphysis and angle.

Mode Of Trauma	Total	Percentage
RTA	70	67
FALL	26	23
ASSAULT	6	4.5
SPORTS INJURY	6	4.5
OCCUPATIONAL	2	1.6
OTHERS		

Type of FRACTURE	NUMBER
NASL	35
Mandible	33
dentoalveolar	15
zygoma	12
Midface(le fort)	9
Soft tissue laceration	6

Distribution Of Mandibular Fracture	Number	Percentage
condylar	11	33
parasymphysis	10	30
angle	5	15
symphysis	4	12
body	3	9
Ramus and coronoid	0	0
total	33	

DISCUSSION

The pattern and incidence of maxillofacial injuries varies with geographic location and socioeconomic staus . In our study maxillofacial injuries are predominant in men than women similar to most other studies.[4] Them most commonly affected age group was 19 - 35years which is similar to various studies.[4,5]. Least affected were children of age group 1-7 years because of their elastic skelton.

Most common mode of injury was road traffic accidents(67) which is almost in conformity to other studies [5-7] .Assault is leading causeof maxillofacial trauma among developed countries, reduction in RTA can be attributed to better road safety measures.

Most commonly fractured bone in our study is nasal bone in accordance with some studies in which they showed that nasal bones are the most common fracture in the body.[8-10]

However some of studies show mandible is the most commonly fractured bone [11]. Nasal bones may be most vulnerable due to inherent architecture of the nose as protruding from the body. Nose because of its prominent central position, lies exposed without protection, and this

could make it the most frequently fractured site in the face.

Among mandibular fractures condylar fracture was most common fracture followed by parasymphysis similar to study of BR Reddy [7]. Mandible fractures have high incidence in maxillofacial injuries and can be treated in two ways. The first treatment option is surgical open reduction technique, which is carried out by surgical incisions and the fractured segments are visualised reduced and fixed with screws, plates and wires. The second option is closed reduction with the use of mandibullomaxillary fixation (MMF), in which the fractured segments and jaws are immobilized adjacent to each other and this procedure results in the reunion of the separated segments[3-4]. Despite the fact that MMF may result in some complications like malunion, non-union, malnutrition and periodontal inflammation, it is used very commonly [4].Duration of MMF depends on the type and location of the fracture, health condition and age of the patient and some other factors, but it is usually 3 to 6 weeks However other studies noted parasymphysis region fracture as most common [5,6].Among midface fractures ,zygomatic fracture was most common after nasal bone fractures [7]. Amongst the fractures of the nasal bones Class II fractures were seen most common . In this group not only the nasal bones are fractured, but the underlying frontonasal process of the maxilla is also fractured. The fracture line also involves the nasal septum. This condition must be recognized clinically because for a successful result both the nasal bones as well as the septum will have to be reduced. Class I fractures are mostly depressed fractures of nasal bones. The fracture line runs parallel to the dorsum of the nose and nasomaxillary suture and joins at a point where the nasal bone becomes thicker. Clinically this fracture will present as a depression over the nasal bone area. There may be tenderness and crepitus over the affected nasal bone. Radiological evidence may or may not be present. Infact, class I fracture of nasal bone is purely a clinical diagnosis. Class III fractures were seen. It is also known as naso orbital fracture / naso ethmoidal fracture. Recent term to describe this class (Naso orbito ethmoid fracture) indicates the clinical importance of orbital component in these injuries. These fractures are always associated with Le Fort fracture of the upper face involving the maxilla also. In these fractures the nasal bone along with the buttressing fronto nasal process of maxilla fractures, telescoping into the ethmoidal labyrinth.

All maxillofacial injury patients were treated either by closed reduction or by open reduction Despite the fact that Closed reduction (MMF) may result in some complications like malunion, non-union, malnutrition and periodontal inflammation, it is used very commonly [4].Duration of MMF depends on the type and location of the fracture, health condition and age of the patient and some other factors, but it is usually 3 to 6 weeks

CONCLUSION

RTA is most coomon cause of maxillofacial injuries and mostly occurring among young generation in 2nd and 3rd decade.Educating masses about the traffic norms and necessary preventive measures and strict application of rules will help in decreasing road traffic accident .

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