

Pattern of Mandibular Fractures in Lahore, Pakistan

Adnan A. Shah, A. Badar, M. Rashid, P. Nyachhyon, M. Hussain, M. Yahya, S. Ali

Department of Oral and Maxillofacial Surgery, De'Montmorency College of Dentistry, Lahore.

SUMMARY

To identify the etiology and site distributions of mandibular fracture. A total of 321 patients were involved in the study. Diagnosis was made on the basis of history, clinical examination and radiographs. There were 246 (77%) males and 75 (33%) females. The most common etiological factor was road traffic accident (140 cases, 44%) followed by assaults (80 cases, 25%). Angle and body fractures were the most common. The most common etiology of maxillofacial trauma is road traffic accidents. This reflects lack of road safety legislation and poor road / highway conditions.

Key words: Facial injuries, trauma, Maxillofacial

INTRODUCTION

The mandible is one of the most frequently fractured bones in trauma. The incidence is affected both by environment and anatomy. The etiology of facial fractures has changed over the last three decades. The main cause has been road traffic accident, assaults, falls and sports related injuries¹. In the developing countries road traffic accident has been the most common cause whereas assaults in the developed countries^{2,3}. In children falls are the common cause of maxillofacial injuries⁴. This study retrospectively observes the etiology, age, sex and distribution of fracture sites in the mandibular region in cases of maxillofacial trauma in Lahore.

MATERIALS AND METHODS

This was retrospective study carried out at departments of Oral and Maxillofacial Surgery at de'Montmorency College of Dentistry and Ittefaq Hospital, Lahore, and comprised of all maxillofacial trauma cases admitted as in-patients in these hospitals.

The records and radiographs of 321 patients with fracture mandible were reviewed. The

radiographs comprised of orthopantomogram, postero-anterior view of mandible and right, left mandibular oblique views. The diagnosis, as shown on the records, was based on history, clinical examination and radiographs. All the patients had routine investigations like full blood count, serum electrolytes, clotting profile, urine analysis, liver function tests, chest X-ray and Electro-cardiogram for over 40 years of age. The records also included a written consent which was taken from every patient, prior to surgery.

As per the records surgical management involved simple eyelet wiring and inter maxillary fixation, arch bar and intermaxillary fixation, with or without intraosseous wiring and plating. Most (90%) cases were done under general anesthesia. Intermaxillary fixation was maintained for a period of 6 weeks.

A form was designed to record age, gender, fracture site and side, etiology and treatment.

RESULTS

The records of a total of 321 patient treated for mandibular fractures at departments of Oral and Maxillofacial Surgery at de'Montmorency College of Dentistry and Ittefaq Hospital, Lahore, were

included in the study. Of these 246 (77%) were male and 75(33%) were female. Age varied from 3 years to 75 years, with the mean age being 36 years.

The cause of injury is shown in Table 1. It can be seen in the table that the most common cause for fracture mandible was road traffic accidents (140 cases, 45%). This was followed by assaults (80 cases, 25%), falls (60 cases, 18%), fire arm injuries (25 cases, 8%), sports (12 cases, 4%) and industrial trauma (4 cases, 1%).

Table 1: Causes.

Causes	Cases	%
RTA	140	44
Assaults	80	25
Falls	60	18
Fire arm injuries	25	8
Sports	12	4
Industrial trauma	4	1

There were 170 (53%) cases of fracture mandible involving right side and 151(47%) cases involving left side of the mandible. The site distribution of fractures is given in Table 2. It can be seen that the most common fracture site was angle of the mandible (96 cases, 30%), followed by body (81 cases, 25%), parasymphysis (64 cases, 20%), condyle (45 cases, 14%), symphysis (32 cases, 10%) and coronoid process (3 cases, 1%).

Table 2: Location.

Location	Number	Percent
Angle	96	30
Body	81	25
Parasymphysis	64	20
Condyle	45	14
Symphysis	32	10
Coronoid	3	1

DISCUSSION

The epidemiological surveys on the etiology and the incidence of maxillofacial fractures vary with socio-economic status, culture, tradition and geographical region ^{5,6,7}. In this study a total of 246 (77%) of males and 75 (33%) of females presented

with mandibular fractures. Male to female ratio was 2.33:1. There has been a male dominant pattern in other studies ⁸.

Road traffic accident has been previously found to be the most common cause of maxillofacial trauma ^{9,10} and the finding of this study support these findings. This study did differ from other studies in the developed countries where road traffic accidents were not the main cause of maxillofacial trauma ^{9,10,11}. In the United Kingdom with the introduction of compulsory use of seat belts and additional traffic regulations there has been significantly reduced traffic injuries ¹².

In England and Norway assaults were reported to be the major cause of facial trauma ^{13,14}. This has not been true in the present study where assaults accounted for twenty five percent of all cases of maxillofacial trauma.

The present study reports eighteen percent cases of mandibular fractures due to fall. This may be because of the kite flying tradition in the society with no protection barriers in the roofs of most houses.

Sports accounted for four percent of all cases reviewed, this may be due to the fact that traditionally contact sports are not played as frequently as the western societies.

The fractures of the angle and body of the mandible were the most commonly involved sites. This was in contrast to some studies ¹⁵, but in agreement with the others ¹⁶.

As the present study indicates that road traffic accident is the major cause of maxillofacial trauma. This implies that better traffic safety regulation should be enforced and improved road condition be provided by the Government.

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The Authors:

Adnan A. Shah,
Associate Professor & Head
Department of Oral and Maxillofacial Surgery,
De'Montmorency College of Dentistry,
Lahore.

A. Badar,
Department of Oral and Maxillofacial Surgery,
De'Montmorency College of Dentistry,
Lahore.

M. Rashid,
Department of Oral and Maxillofacial Surgery,
De'Montmorency College of Dentistry,
Lahore.

P. Nyachhyon,
Department of Oral and Maxillofacial Surgery,
De'Montmorency College of Dentistry,
Lahore.

M. Hussain,
Department of Oral and Maxillofacial Surgery,
De'Montmorency College of Dentistry,
Lahore.

M Yahya,
Department of Oral and Maxillofacial Surgery,
De'Montmorency College of Dentistry,
Lahore.

S. Ali
Department of Oral and Maxillofacial Surgery,
De'Montmorency College of Dentistry,
Lahore.

Address for Correspondence:

Adnan A. Shah,
Associate Professor & Head
Department of Oral and Maxillofacial Surgery,
De'Montmorency College of Dentistry,
Lahore.