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Original Article

Profile of Medico-legal Cases Related to Maxillo-facial and ENT Injuries: A Prospective Study

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ABSTRACT

Medico-legal cases involving trauma have shown rising trend throughout the world. With increase in number of these cases, maxillo-facial and Ear, Nose and Throat (ENT) injuries have become more important. The aim of the present study is to highlight the pattern and profile of medico-legal cases related to maxillo-facial and ENT injuries presenting to casualty department of Government Medical College and Hospital, Haldwani, Uttarakhand, during the period of one year. In the present study, a total of 385 medico-legal cases related to maxillo-facial and Ear, Nose and Throat (ENT) injuries were included, of which, male predominance was observed in 74.28% cases. Majority (83.12%) cases belonged to Hindu community. Maximum cases reported from the age group of 21–30 years (28.83%) followed by age group of 31–40 years. In majority of cases (76.63%), alleged manner of incidence was accident followed by homicide. Majority of cases (53.5%) were of road traffic accident (RTA), followed by fall from height (20.5%) and physical assault (19.7%). In the present study, commonest bone affected was nasal (58.2%) followed by mandible and nasal bleeding (38.16%) was most common soft tissue injury. These injuries can be reduced by proper education, awareness and training of safety standards as most of them are caused by RTA.

Keywords: Medico-legal cases, Maxillo-facial injuries, Road traffic accident, Casualty, Fall from height, Physical assault

INTRODUCTION

Maxillo-facial and ENT injuries are most prevalent injuries seen in trauma centres. Possible causes of these injuries are motor vehicular accidents, fall from height, assault, explosions, falls, sports injuries, natural disasters and work-related injuries. Face is the most exposed and least protected part of the body, therefore, loss of the tissue and defects may leads to cosmetic and functional losses to the victims. Soft tissue injuries include abrasions, lacerations, avulsions, bruises, bleeding etc. [1]

One of the most important functions of forensic medicine expert is accurate description and interpretation of injuries [2]. In forensic medical context, [3] physical injury can be defined as "damage to any part of the body due to the deliberate or accidental application of mechanical or other traumatic agent." These physical injuries may be present in a case of road traffic accident (RTA), assault either physical or sexual, and fall from height etc. on the body

of victim. In these cases, examining doctor should record injuries accurately and be aware of their medico-legal significance so that useful opinion regarding cause of injury can be drawn. It also saves doctors from unnecessary and baseless allegations.

Casualty department not only deals with emergency cases either surgical or medical but also with a huge number of medico-legal cases such as RTAs, burns, poisoning, assaults, sudden deaths and any suspicious deaths. Casualty Medical Officer is the first doctor who not only gives primary treatment but also performs all medico-legal formalities concerned to patients.

The aim of the present study is to throw light on the pattern and profile of medico-legal cases related to maxillo-facial and ENT injuries presenting to casualty department and to provide vital data for various administrative authorities to formulate strategies in order to reduce these incidences.

MATERIAL AND METHODS

This was a prospective study conducted in casualty department of Government Medical College and Hospital, Haldwani, Uttarakhand, during the period of one year (1 May 2015 to 30 April 2016). Individuals from both genders and all age groups were included and those with no medico-legal perspective and having medico-legal injuries other than maxillo-facial and ENT injuries were excluded from study. A pre-structured proforma was used to note down types of injuries and additional information like the demographic profile, age, mode of injury etc. was collected from victim's attendants and police.

RESULT AND DISCUSSION

In the current study, a total of 385 medico-legal cases related to maxillo-facial and ENT injuries were included, of which, male predominance was observed in 74.28% cases and females were 25.72.% (Figure 1).

Studies done by Tomar *et al*.[4], Yadav *et al*.[5], Malik *et al*.[6] also reported similar results. Reason for this could be that males are more involved in outdoor activities compared to females. Therefore, males are more prone to RTAs and other injuries. Figure 2 shows that majority of cases belong to Hindu community (83.12%), followed by Muslims community (16.88%).

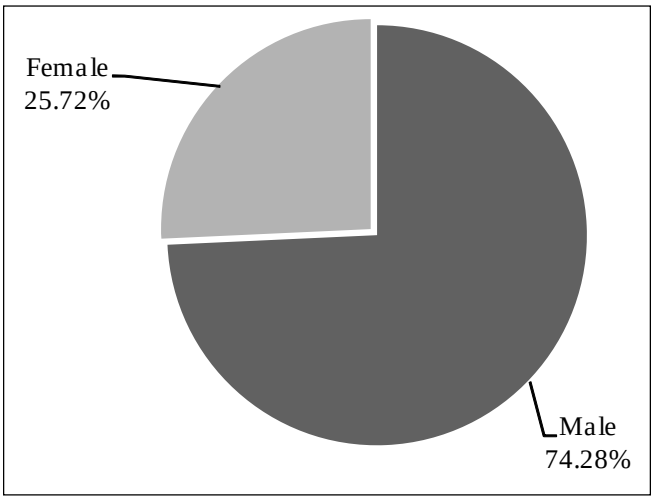


Figure 1: Sex wise distribution of cases

Maximum cases were from the age group of 21–30 years (28.83%) followed by age group of 31–40 years group (23.11%; Figure 3). Our study results coincides with the studies done by Hussaini *et al*.[7], Saxena *et al*.[8] and Haridas *et al*.[9] Young individuals are more involved in outdoor activities to earn bread and butter, in re-creational activities which result in more accidents and other injuries compared to extremes of age.

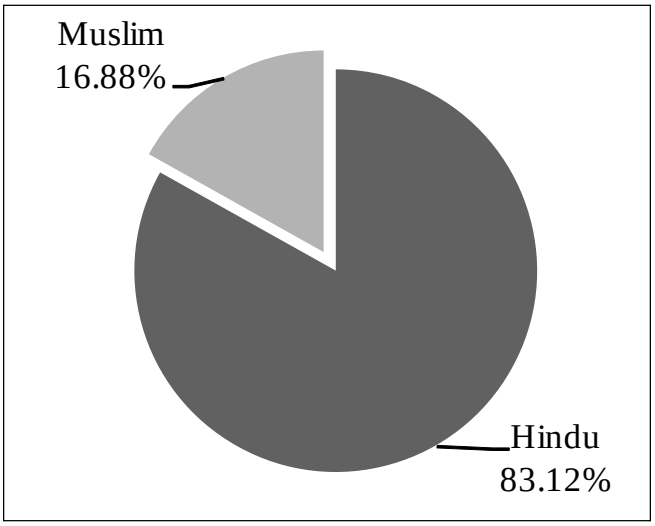


Figure 2: Religion wise distribution of cases

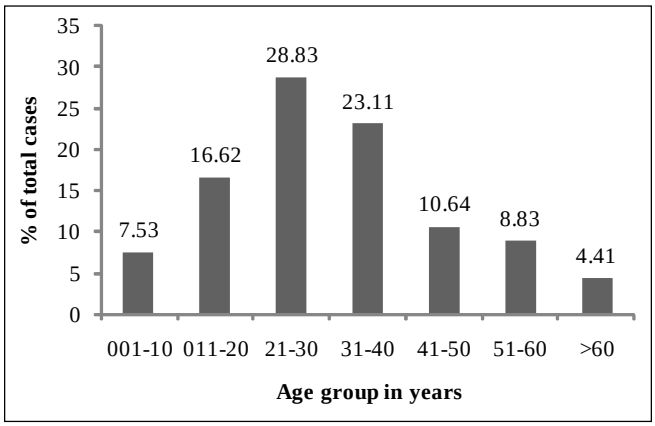


Figure 3: Age wise distribution of cases

In about three-fourth of cases (76.63%), alleged manner of incidence was accidental, in 20.0% homicidal and in 3.37% suicidal (Figure 4). Study done by Siddappa *et al*.[10] and Tomar *et al*.[4] also showed accidental as most common alleged manner of incidence. Reason for this could be that in our study majority of cases belonged to RTA and fall from height which are generally accidental in nature. Study conducted by Yadav *et al*.[5] observed different result from our study where assault cases (39.6%) were almost equal to accidental cases (38.1%).

Table 1 shows that majority of cases (53.5%) were of RTA, followed by fall from height (20.5%) and physical assault (19.7%). Nine cases were classified as miscellaneous which includes ball hitting on face, blunt injury to neck, hit on throat by ball, slipped in bathroom, slipped in stairs, wall fall on body, TV fall on head etc.

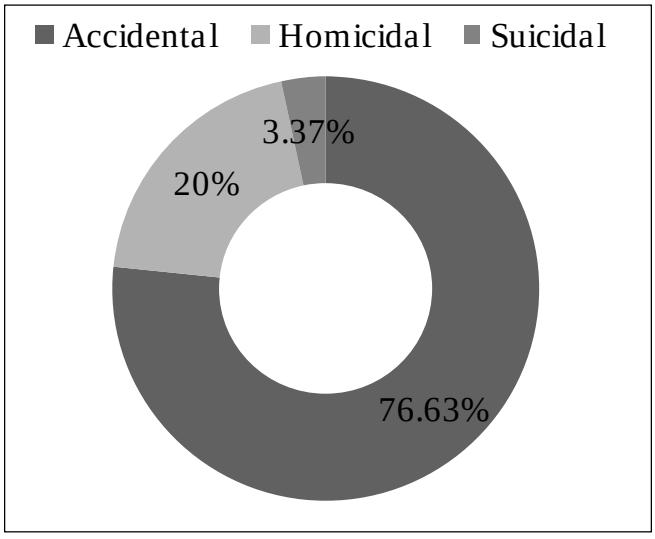


Figure 4: Alleged manner of incidence

Table 1: Etiology wise distribution of cases

Etiology of injury	Cases	
	Number	Percentage
Road traffic accident	206	53.5
Fall from height	79	20.5
Assault	76	19.7
Dog bite	9	2.33
Seizure	3	0.77
Hanging	1	0.25
Acid attack	1	0.25
Tiger attack	1	0.25
Miscellaneous	9	2.33

In the present study, maximum cases were of RTA. This finding was consistent with other studies done by Garg*et al*.,[11] Siddappa *et al*.[10] and Timsinha *et al*.[12] Poor road conditions, poor lighting, increasing road density may be a reason for this. Study done by Malik *et al*.,[6] Yadav *et al*.[5] and Hussain *et al*.[7] observed different results in their studies that maximum cases reported were of poisoning, poisoning and burn, respectively. When month-wise distribution of cases were analyzed, maximum

Table 2: Month wise distribution of cases

Month	Cases	
	Number	Percentage
May	47	12.2
June	28	7.27
July	30	7.79
August	32	8.31
September	32	8.31
October	32	8.31
November	35	9.09
December	23	5.97
January	34	8.83
February	27	7.01
March	32	8.31
April	33	8.57

number was observed in May (12.0%), followed by November (9.09%; Table 2).

Figure 5 shows that in the present study commonest bone affected was nasal (58.2%) followed by mandible (26.8%), maxilla (5.97%) and zygoma (5.97%). Agnihotri *et al*.[13] also reported nasal bone as commonest affected bone. Study done by Wahid *et al*.[1] observed mandible as most affected bone.

Nasal bleeding (38.16%) was the commonest soft tissue injury followed by ear bleed (24.79%) and lip lacerations (20.61%; Figure 6). Study done by Das *et al*.[14] also reported nasal bleeding and ear bleeding as most common nasal and ear presentation.

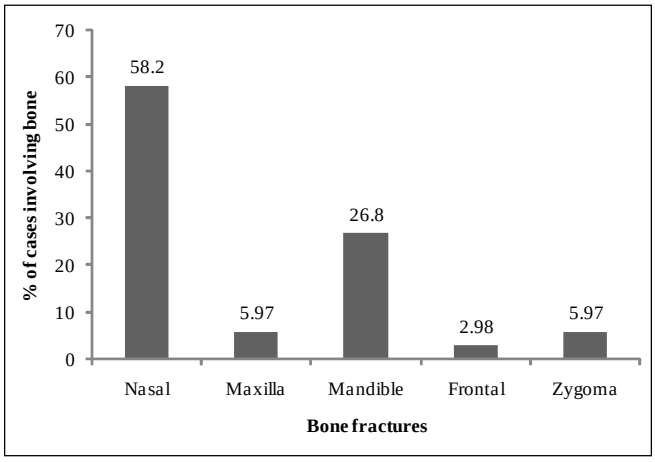


Figure 5: Distribution of injuries according to involved bones

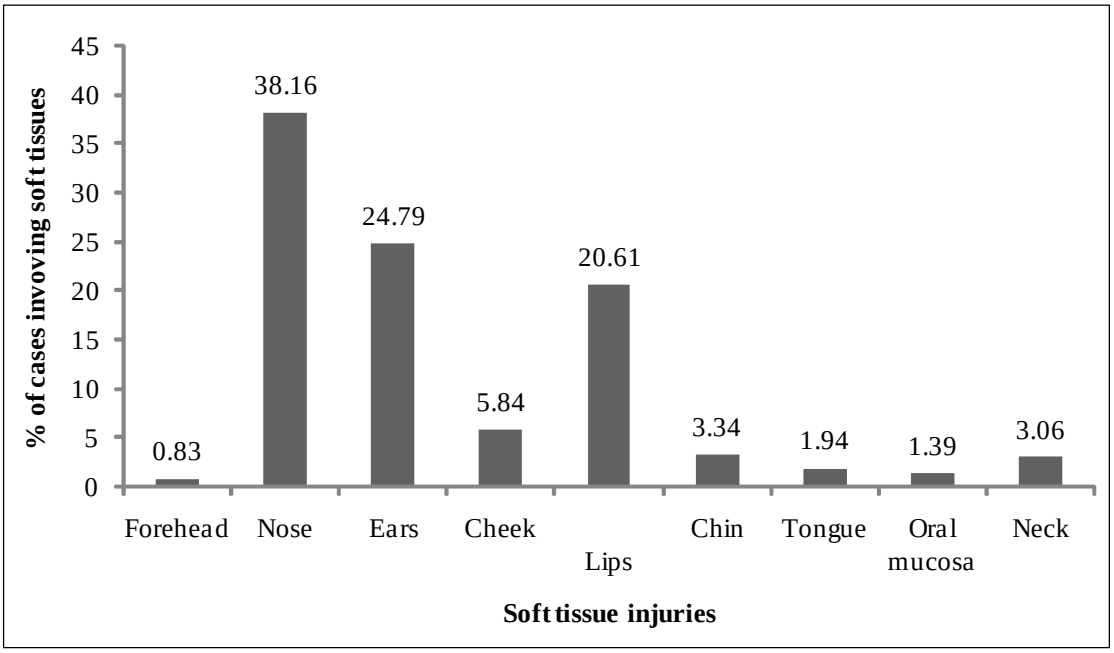
CONCLUSION

From the findings of the present study, we conclude that:

1. Maximum numbers of cases of maxillo-facial and ENT injuries were related to RTA followed by fall from height among young individuals (21–40 years). Injuries can be prevented by proper education, awareness and training of safety standards.
2. About three-fourth cases, alleged manner of incidence was accidental followed by homicidal.
3. Nasal bone was most common affected bone while nasal bleeding was most common soft tissue injury.

The casualty department of any hospital not only deals with emergencies but also with medico-legal works, this puts a lot of burden on casualty department. Most of the medico-legal works in casualty is done by MBBS doctor who is not specialist in handling them. Therefore, proper training should be provided to MBBS doctor under supervision of forensic medicine experts to prevent administration of injustice.

Figure 6: Distribution of soft tissue injury



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