

Association of Otorhinolaryngological Trauma with Head and Neck Injury – An Epidemiological Study

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Abstract: The Ear, Throat and face region is the area in the body that is commonly involved in head and neck injury. Trauma to this region is often associated with mortality and morbidity and varying degree of physical and functional damage. To assess the prevalence of otorhinolaryngological trauma in head and neck injury. A cross sectional prospective study contains 200 patients who were diagnosed of having head and neck injuries. All the patients were subjected to detail clinical examination i.e. age sex, cause of injury, presence of injuries on face, ear and throat etc. and otorhinolaryngological examination. Among 200 cases, 52% were male and 48% were females. Majority were between 26-40 years (106), followed by more than 45 years (26), less than 25 years (18). The injuries in majority cases were located in facial region (55.3%) followed by various other sites (20%), throat (13.3%) and ear (11.3%) regions. Most of the otorhinolaryngological trauma in head and neck injuries are accounted by road accidents (69.3%) followed by assault injuries (16%), by fall injuries (10%) and by various other causes is 4.6%. The prevalence of otorhinolaryngological trauma in head neck injuries was 75%. The prevalence of ENT trauma is more in between 26-40 years age group and in males. Maxillofacial injuries are most common and injuries by road accidents are much accountable to otorhinolaryngological trauma in head neck injury cases.

Keywords: Otorhinolaryngological trauma, Head and neck injuries, Road accident injuries.

INTRODUCTION

Otorhinolaryngological trauma, head and neck injuries are various with age, sex, regional and socioeconomic status. Early diagnosis and management will reduce morbidity and mortality [1]. A head injury is any trauma that leads to injury of the scalp, skull, or brain. The injuries can range from a minor bump on the skull to serious brain injury [2]. Injuries can range from minor soft tissue lacerations to complex facial fractures, penetrating neck wounds and cranial nerve injury. Similar to the range of injuries, the mechanism of injuries are broad and may include minor falls to armed assault and motor vehicle accidents [3].

Various studies stated that, road traffic accidents are the commonest cause of craniofacial trauma due to negligence in driving, poor maintenance of vehicles, alcohol or drugs consumption and disobeying traffic rules [4]. ENT trauma is most common in males than females. Male predominance is due to the facts that male have more freedom to work

outdoor and engage in risk tasking activities, making them most vulnerable to accidents and fall injuries.

The present study aimed to assess the prevalence of otorhinolaryngological trauma in head and neck injury patients.

MATERIALS AND METHODS

The present cross sectional prospective study was conducted in Department of ENT, MNR Medical College and Hospital, Sangareddy during April 2015 to December 2016. A total 150 patients who diagnosed with head neck injuries attending to outpatient department were recruited. Patients with past history of head and neck trauma were excluded. Informed consent was obtained from all the patients.

All the patients were subjected to detail clinical examination i.e. age sex, cause of injury, presence of injuries on face, ear and throat etc. and otorhinolaryngological examination. The complete data

was obtained to master data sheet for statistical analysis and chi square test was performed.

patients, 104 (52%) were male and 96 (48%) were females. In related to age group, majority were between 26-40 years (106), followed by more than 45 years (26), less than 25 years (18).

RESULTS

A total 200 patients with head neck between all ages and sexes injuries were considered. Among total

Table-1: Age wise distribution of otorhinolaryngological trauma in head and neck injury patients

Age (In Years)	Appearance of ORL trauma				Grand total
	Present		Absent		
	Number	Percentage	Number	Percentage	
Up to 25	18	64.2%	10	35.7%	28
26-40	106	81.53%	24	18.4%	130
>40	26	61.9%	16	38.1%	42
Total	150		50		200

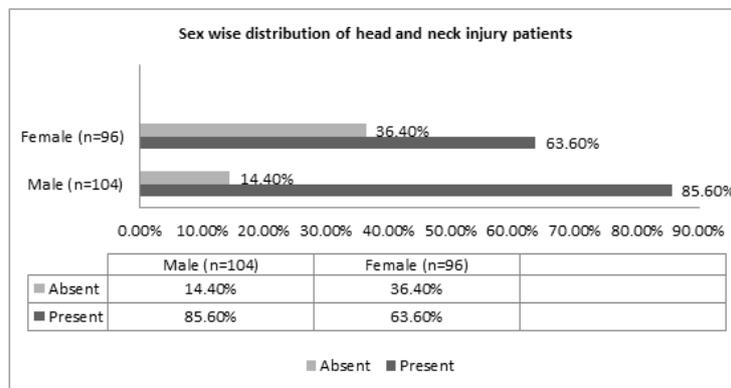


Fig-2: Sex wise distribution of otorhinolaryngological trauma in head and neck injury patients

Table-2: Prevalence of otorhinolaryngological trauma in head and neck injury patients as per site of injury

Age (In Years)	Prevalence of ORL trauma						Grand Total
	Up to 25 years		26-40 years		More than 40 years		
	Number	Percentage	Number	Percentage	Number	Percentage	
Facial	9	50%	60	56.6%	14	53.8%	83
Throat	1	5.5%	18	16.9%	1	3.8%	20
Ear's	5	27.7%	8	7.5%	4	15.3%	17
Various areas	3	16.6%	20	18.8%	7	26.9%	30
Total	18		106		26		150

Table-3: Prevalence of otorhinolaryngological trauma in head and neck injury patients as cause of injury

Age (In Years)	Prevalence of ORL trauma						Grand Total
	Up to 25 years		26-40 years		More than 40 years		
	Number	Percentage	Number	Percentage	Number	Percentage	
Accidents on roads	12	66.7%	76	71.6%	16	61.5%	104
Accidents by fall	3	16.7%	8	7.54%	4	15.3%	15
Accidents by assault	2	11.1%	17	16.03%	5	19.2%	24
Various others	1	5.5%	5	4.71%	1	3.84%	7
Total	18		106		26		150

DISCUSSION

In the present study, majority of the patients were between 26-40 years age group followed by more than 40 years and up to 25 years (Table 1). Study by Keita *et al.* stated that commonly involved mean age in injuries is 27 years, because due to active involvement in socioeconomic activities which leads to accidents and assaults [5]. According to sex, otorhinolaryngological trauma in head and neck injuries was more common in males than female patients (Figure 1). Studies by Keita M *et al.* and Mandubueze *et al.* stated that males are more commonly involved than females [5, 6].

In present study, the injuries in majority cases were located in facial region (55.3%) followed by various other sites (20%), throat (13.3%) and ear (11.3%) regions (Table 2). Study by Sharma *et al.* and Odhiambo W *et al.* found 84% and 78% injuries at maxillofacial region respectively [7, 8]. The findings of present study and above studies are stating higher prevalence in maxillofacial region, but study by Goodisson *et al.* stated only 5% cases had maxillofacial injuries [9]. Patients between 26-40 years (72.2%) were more prevalent to facial injuries than other age groups. Study by Bouguila J *et al.* 29 years is the average age to sustain facial injuries with male predominance [10].

In the present study, most of the otorhinolaryngological trauma in head and neck injuries is accounted by road accidents (69.3%) followed by assault involved injuries (16%), injuries by fall (10%) and by various other causes is 4.6% (Table 3). The common age group involved was 26-40 years in all types of injuries. Study by Bouguila J *et al.* found prevalence of otorhinolaryngological trauma in head and neck injuries happened 39% by accidents and 28% by assaults with male predominance [10]. Traffic accidents are the major causes for otorhinolaryngological trauma in Malaysia (53.6%), UK (52.5%) and USA (59.8%) [11]. In most of the studies, road traffic accidents are the commonest cause of craniofacial trauma [12-15] due to negligence in driving, poor maintenance of vehicles, alcohol or drugs consumption and disobeying traffic rules [16]. Hausdorff *et al.* in his study found that majority injuries by fall occurring in elder adults which is gradually growing every year and 10-20% falls are leading to head and neck trauma [17].

CONCLUSION

In the present study, prevalence of otorhinolaryngological trauma in head neck injuries was 75%. The prevalence of otorhinolaryngological trauma was more in 25-40 years age group. The prevalence of otorhinolaryngological trauma was predominant in males than females. Male predominance is due to the facts that male have more freedom to work outdoor and

engage in risk tasking activities, making them most vulnerable to accidents and fall injuries. Majority of the injuries are commonly involved in facial region followed by throat region and ear region. Majority otorhinolaryngological trauma was happened by accidents on roads followed by injuries by assault (16%) and injuries by falling (10%).

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