ORIGINAL ARTICLE

PATTERN AND CAUSES OF MAXILLOFACIAL TRAUMA AMONG SENIOR CITIZENS

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ABSTRACT

Maxillofacial trauma is one of leading challenge in developing countries. Trauma is a growing concern in geriatric population. The objective of this study was to evaluate the pattern, causes and site of maxillofacial trauma among senior citizens seen at Liaquat University of Medical and Health Sciences, Hyderabad, Sindh. This retrospective cross sectional study was conducted from February 2015 to March 2015 Liaquat Medical University Hospital. All geriatric patients aged 60 years and above, sustaining oral and maxillofacial injuries were included in this study. Data related to age, gender, etiology, types of injuries were assessed .The etiology of injury was classified as RTA (Road Traffic Accident), assault, violence, fall and industrial accident. The types of injury were grouped as soft tissue (abrasion, laceration and contusion). Site of fractures (mandibular, maxillary, zygomatic complex and dento-alveolar) were also recorded. In this geriatric group maxillofacial trauma accounted for approximately 5.68% of injuries. There were 73% men and 27% women. The most common cause of trauma was RTA (56%) followed by fall (24%) and violence (10.6%). There was no significant association between gender and causes of trauma (p-value =0.490). Maxillofacial injury was predominant in the 60–70-year age group and there was no significant association between different age groups and causes of trauma (p-value =0.813). Frequency of soft tissue injury occurred in the form of abrasion 44%, laceration 33% and contusion 23%. Mandible was most commonly involved site (40%) followed by fracture of the zygomatic complex (28%).

Key Words: *Geriatic dentistry, Maxillofacial trauma, LUMHS, Jamshoro.*

INTRODUCTION

Maxillofacial trauma is one of leading challenge in developmental countries. Trauma is a growing concern in geriatric population.[1,2] People over the age of 60 years increasing day by day throughout the world. According to WHO, Pakistan is among the world's 15 countries with more than 10 million people aged 60 and above, will have 43.3 million people (15.8%) of the said age group by 2025 as compared to 11.6 million in 2012.[3,4] Globally too, the number of people aged 60 or above is growing faster than any other age group, and is expected to reach 1 billion within just 10 years. It is, therefore, imperative for governments to address the needs of the growing population before they are taken by surprise.[4] Trauma is the fifth leading cause of death in this age group. Physiologic changes with decrease in vision or hearing, changes in pro-prioception, decrease in muscle tone and slow reflexes can put them at risk of falling and other types of trauma. It has been shown that there was a 25% increase in admissions for trauma patients older than 65 years in the last decade and they sustained higher morbidity and mortality than younger people for the same severity of injury.[2,5] The prevalence of maxillofacial trauma in children and young adults has been well documented but very few studies have focused on the geriatric Asian populations.[6] Road Traffic Accidents (RTA), falls and assaults are the common etiology of trauma in geriatric patients, causing injuries to the head and neck area.[7] The WHO has classified the ageing population to be those who are 65 years and older and for developing countries, the age was decreased to 60 years and older.[7] In this country, this population is known as the senior citizens. Liaquat university hospital one of leading emergency receiving

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hospital of Sindh province Pakistan and is the main general and tertiary hospital Hyderabad. The purpose of this study was to determine the pattern and causes of maxillofacial injuries among senior citizens referred to LUMHS Jamshoro /Hyderabad. This study will help in recommendation of possible preventive measures, to help the policy makers evolve a better trauma care program by focusing on the target groups and introduce cost effective preventive measures.

METHODOLOGY

All geriatric patients aged 60 years and above sustaining oral and maxillofacial injuries presented to department of Oral and maxillofacial surgery Liaquat Medical University Hospital, Jamshoro, Pakistan were included in the study. The data was collected from February 2015 to March 2015. Data related to age, gender, etiology and types of injuries were assessed. The etiology of injury was classified as RTA, assault, violence, fall and industrial accident. The types of injury were grouped as soft tissue (abrasion, laceration and contusion) and bony fractures (mandibular, maxillary, zygomatic complex and dentoalveolar). For data entry and analysis, SPSS version 16 was used. Descriptive statistics such as means and standard deviation (SD) for numerical variables like age was computed and frequency and percentages for categorical variables like gender, cause and type of injury were calculated. Chi square test was applied to see any significant association. The level of significance was set at >0.05.

RESULTS

There were 1320 patients who sustained oral and maxillofacial trauma, brought in Liaquat Medical University Hospital from January 2012 to March 2015. Among these, 75 patients were 60 years and older. This shows that the trend of maxillofacial trauma in this geriatric group accounted for approximately 5.68% of injuries in that 2-year period. Ages ranges 60-89 years with a mean age of 66.49 ± 7.240. There were 55 (73%) men and 20 (27%) women. The most common cause of trauma was Road Traffic Accidents (RTA) followed by fall and violence. There was no significant association between gender and causes of trauma (Table 1). Maxillofacial injury was predominant in the 60-70-year age groups and there was no significant association between different age groups and causes of trauma (P-value 0.813) (Table 2).

Soft tissue injury was the most common injury sustained in maxillofacial trauma. This commonly occurred in the form of abrasion 44%, laceration 33% and contusion 23% wounds both outside and inside the mouth (Table 3). Generally, the most common site involvement was mandibular fractures (40%) fractures followed by zygomatic complex (28%) and maxillary fracture (19%) (Table 4).

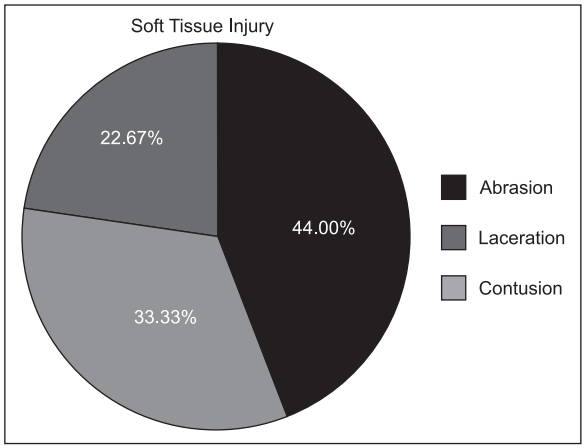

Fig 1: Frequency of soft tissue injuries

TABLE 1: RELATIONSHIP BETWEEN GENDER AND CAUSES OF TRAUMA

Gender distribution		Causes of Trauma				Total N-55	P-value
		RTA	Fall	Violence	Others		
	Male	32	11	7	5		
						(73.3%)	
	Female	10	7	1	2	20	
Total						(26.7%)	0.490
		42 (56%)	18 (24%)	8 (10.6%)	7 (9.3%)	75 (100%)	

TABLE 2: RELATIONSHIP BETWEEN AGE GROUPS AND CAUSES OF TRAUMA

Age	Road side accident	Violence	Fall	Others	Total	P value
60-65	25 (33.3)	5 (6.6)	6 (8)	2 (2.6)	38 (50.6)	0.813
66-70	9 (12)	4 (5.3)	7 (9.3)	1 (1.1)	21 (28)	
71-80	6 (8)	—	8 (10.6)	—	14 (18.6)	
80- >	1 (1.1)	—	1 (1.3)	—	2 (2.6)	
Total	41 (54)	9 (12)	22 (29.3)	3 (4)	75 (100)	

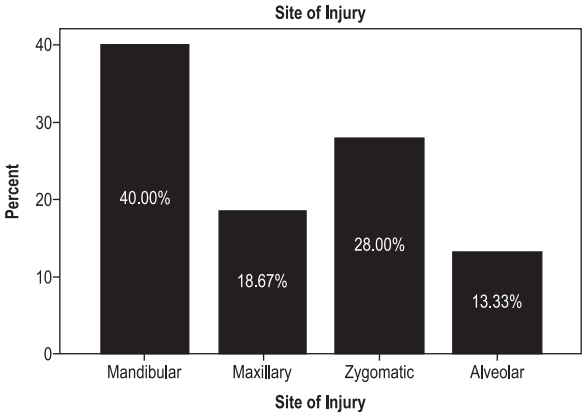

Fig 2: Sites of maxillofacial fracture

DISCUSSION

It is estimated that more than 20% of the world population will be older than 65 years by 2040.[7] The occurrence of maxillofacial trauma involving geriatric patients in our hospital was 5.68% out of 1320 patients. In this study males were more injured than females, this finding is in agreement with two studies conducted by Goldschmidt MT et al and Chew DJ[8,9] whereas the study results of falcone and colleagues[10] reported an equal number of male and female patients presenting with maxillofacial trauma. And other investigators[11] have reported a higher incidence of females presenting with maxillofacial trauma. The reason for discrepancies between these studies is not clear; the etiology of fractures is different between males and females; in this study RTA was the most common cause in either gender which is in agreement with the study results of Gerbino G[5] and Chew DJ.[9]

Among all the etiologies, RTA was the prime cause of trauma in this study, particularly in the 60-70 years old groups. This was in agreement with other studies.[11,12] Declining visual acuity including peripheral vision, cognitive impairment as well as changes in judgment and attention have been proposed as possible factors in older drivers colliding in intersections with a crossing vehicle, which they did not notice at all, or saw so late that they did not have enough time to avoid.[13,14] In this study the most common injury was the middle third (Maxilla, zygoma) of the face followed by mandible, which is in agreement with Falcone et al[10] and Goldschmidt et al.[8] Soft tissue injuries were reported more than hard tissue injuries, the most common soft tissue injury was abrasion followed by laceration and contusion, this finding is accredited with Normastura AR et al.[15]

CONCLUSION

The findings of this study suggest that the most common cause of trauma was road traffic accidents (RTA) followed by fall and violence in elderly patient. Mandible was commonly involved site in fractures and there was no significant association between gender and causes of trauma.

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4 Sunil Kumar Punjabi:	Helped in discussion writing
5 Shumaila:	Net browsing for searching literature and reference setting