

## Study on Head and Neck Tumours Presented in OPD of Shaheed Ziaur Rahman Medical College Hospital, Bogura, Bangladesh

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### Abstract

### Original Research Article

**Introduction:** Head and neck trauma includes many facial fractures as well as soft tissue injury to face, oropharyngeal injury and also trauma to neck. Head and neck trauma may or may not be associated with fractures like maxillofacial fractures or isolated fracture of nasal bone. **Objective:** To find out study on Head and Neck tumours presented in OPD of Shaheed Ziaur Rahman Medical College Hospital, Bogura, Bangladesh. **Material and Methods:** This retrospective study was done in the Department of ENT & Head-Neck Surgery, Shaheed Ziaur Rahman Medical College Hospital, Bogura, Bangladesh from July to December 2021. Total 51 inpatients with a diagnosis suggestive of head and neck trauma Data was collected for age, sex, address, type of admission (Emergency/OPD), mechanism of injury, site of injury, imaging including X-rays/CT scan wherever applicable and results, surgical therapy, type of anesthesia, hospital admission duration, complications, and follow-up and analyzed. **Results:** Of the 51 cases, most of them were adult age group 62.7%, the females were 37.3% (19) and 62.7% (32) were male. In our study patients were divided into three age groups; pediatric (0-14 years), adult (15-60 years) and geriatric (>60years). Most of the patients belonged to the adult age group. 13.7% had presented to emergency room (ER) and 86.3% presented to outpatient department (OPD). Fall was the most common mode of injury (100%) in both pediatric and elderly population and in adults RTA (42.10%) was the most common mode. In the type of injury most common in pediatrics was oral cavity and oropharyngeal injury (47.60%), in adult's facial soft tissue injury (STI) and facial fractures (42.10%) were equally common and in geriatrics it was (100%). **Conclusion:** Adult males were prone to head and neck trauma mostly sustaining soft tissue injury (STI) and fractures due to RTA and physical assault. Injury to oral cavity and oropharynx and STI due to fall is common in extreme of ages. Though the management out comes were good and no grave complications were reported in this study.

**Keywords:** Cut, fall injury, Fracture, Trauma.

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## INTRODUCTION

Head and neck trauma includes many facial fractures as well as soft tissue injury to face, oropharyngeal injury and also trauma to neck. Head and neck trauma may or may not be associated with fractures like maxillofacial fractures or isolated fracture of nasal bone [1]. Head and neck neoplasia can affect certain fundamental functions including eating, drinking, speaking and respiration [2]. Head and neck tumours (HNT) consist of a diverse group of tumours that ranges from cutaneous, lip, salivary glands, sinuses, oral cavity, pharynx and laryngs. Presently, HNT is six most prevalent neoplasms in the world, with

approximately 900.000 cases diagnosed worldwide per year. Prognosis has improved little in the past 30 years [3]. Males are approximately three times more likely to develop squamous cancers of the head and neck (oral cavity, pharynx and larynx) than females. Very few prospective studies have examined the association between cigarette smoking and cancer of the head and neck in women, even though the rates of smoking in women are increasing rapidly worldwide [4]. Since time, immemorial injuries to the head and neck specially face have been documented in literature and even depicted in sculptures, reflecting the image of society [5]. The final outcome depends on initial wound care and primary repair. Head and neck trauma demand

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meticulous care [6, 7]. Oropharyngeal trauma which goes largely under reported has been reported to cause grave complications like carotid artery aneurysm and Cerebrovascular accidents (CVA) [8, 9]. Facial trauma and fracture nasal bone leading to disfigurement becomes a social stigma and has the gross detrimental effect on the personality and future of the victim [10, 11]. In this modern, mechanical era, injuries to the face, head and neck are becoming more frequent [12]. The head and neck consists of several vital organs with functional and aesthetic units. The aim of management of head and neck trauma is functional and aesthetic recovery in the shortest period. Most reviews of head and neck trauma have concentrated on fractures. The incidence of head and neck tumours seems to be relatively high, but without significant increase during investigated period. More investigation concerning risk factors, diagnostic procedures, and management strategies should be done in future.

## MATERIAL AND METHODS

This retrospective study was done in the Department of ENT & Head-Neck Surgery, Shaheed Ziaur Rahman Medical College Hospital, Bogura, Bangladesh from July to December 2021. Total 51 inpatients with a diagnosis suggestive of head and neck trauma. Patients of all age group with all type of accidental, suicidal and homicidal trauma to face, oropharynx and neck were included in the study. Records were evaluated for the following clinical data points: age, sex, address, type of admission (Emergency/OPD), mechanism of injury, site of injury, associated other injury, imaging including X- rays/CT scan wherever applicable and results, surgical therapy and indications, type of anesthesia, hospital admission duration, complications, and follow-up. Age group is divided into pediatric (0-14 years), adult (15-60 years) and geriatric (60 and above). Results were subsequently analyzed to determine the prevalence of various types of head and neck injury and their mode of management,

duration of hospital stay and complication. Data were also analyzed to find the correlation between different age group and type and mode of injury.

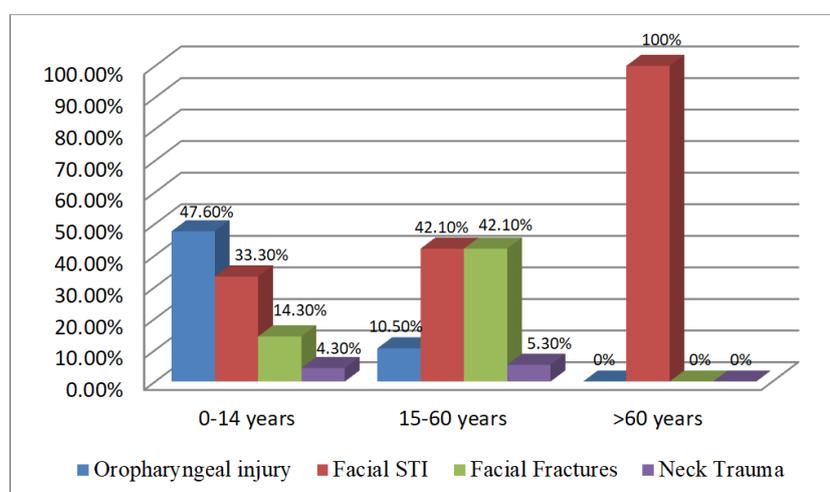
## RESULTS

Of the 51 cases, most of them were adult age group 62.7%, the females were 37.3% (19) and 62.7% (32) were male. In our study patients were divided into three age groups; pediatric (0-14 years), adult (15-60 years) and geriatric (>60years). Most of the patients belonged to the adult age group. 13.7% had presented to emergency room (ER) and 86.3% presented to outpatient department (OPD) (Table-1).

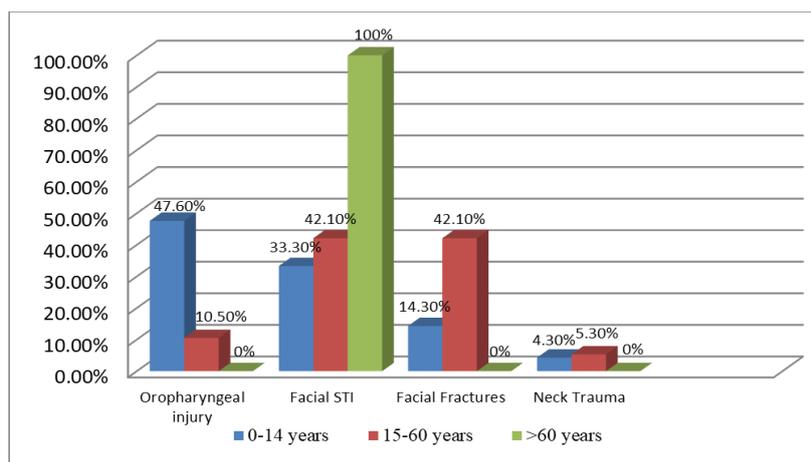
**Table-1: Demographic data of the cases (N=51)**

demographic data	N	%
<b>Age</b>		
Pediatrics(1-14years)	17	33.3%
Adult( 15-60yrs)	32	62.7%
>60years	2	3.9%
<b>Sex</b>		
Female	19	37.3%
Male	32	62.7%
<b>Presentation</b>		
ER	7	13.7%
OPD	45	86.3%

All the soft tissue injuries(STI) including cuts and lacerations to the face, forehead, cheeks, pinna were included in the facial soft tissue injuries which was 41% of all the injuries, 23% had trauma over oral cavity and oropharynx, which included cut lips, injuries to buccal mucosa, alveolus, soft palate and hard palate. Facial fractures included fractures of maxilla, mandible, nose and temporal bone were seen in 31.1% of the cases where as 4.1% of the cases had trauma to the neck, which included 3 cases of cut throat, blunt trauma to neck. Different injuries in different age groups have been demonstrated in fig-1.



**Fig-1: Type of injuries according to age groups.**



**Fig-2: Modes of injuries according to age groups.**

In the pediatric age group oropharyngeal injury was the most common injury whereas facial STI and facial fractures are the commonest injuries in adult age group. In the geriatrics facial STI is the only injury sustained. The most common mode of injury was fall (26.50%), followed by RTA (24.35%), physical assault (36.15%), blunt trauma (1.4%) and suicidal attempt (1.6%). Different modes of injury in different age group have been demonstrated in the figure 2. Imaging was done in only 33.3% of the cases. X-ray was done in 21.5% of the cases (all the fracture nasal bone) and CT scan was done in 11.7% of the case. One case of blunt trauma neck had undergone nasopharyngolaryngoscopy. 13.8% of the patients was managed conservatively and 86.2% had to undergo surgery. Among them primary repair was done in 56.8% of the total cases and 9.8% cases of STI were infected which required debridement and hence secondary repair was done. In all the cases of fracture nasal bone i.e. 27.4% of all the injuries, close reduction was done. One case of cut throat required exploration and repair and tracheostomy. In one case of septal haematoma incision and drainage was done. 37.2% of surgical interventions were done under general anesthesia and 50.9% were done under local anesthesia. In our study complication was noted in 11.7% of the cases. 9.8% of the total cases developed wound infection requiring secondary repair. A case of fracture temporal bone which presented late with facial nerve palsy and traumatic tympanic membrane perforation which was managed conservatively. Another case of avulsion of pinna had developed avascular necrosis of upper 2/3rd of pinna.

## DISCUSSION

Head and neck trauma has been reported in most studies to be more prevalent in people with low socioeconomic status [12-15]. This finding is reflected in our study in which the majority of patients were farmers coming from rural areas located a considerable distance from the study area and most of them had either primary or no formal education and were unemployed. This observation has an implication on the

accessibility of healthcare facilities and awareness of the disease. In the present study, the majority of patients presented late with advanced stage of cancer which is in keeping with other studies in developing countries [16-18]. Late presentation in these countries may be due to ignorance, poverty, poor access to health services, and patients consulting traditional healers and using traditional medicines. Late presentation of cases is an area of head and neck trauma care in our center that requires urgent attention. We could not establish the reasons for late presentation in this study, owing to its retrospective nature. Detecting primary cancer at an early stage contributes to improved chances for successful treatment and thus for survival. In our study most of the patients were males 62.7% like in other studies [6, 8, 19-22]. In a study conducted by Jeffrey C. Posnick *et al.*, [22], injuries in boys were more prevalent than in girls (63% versus 37%). Adults were more prone to trauma (62.7%) followed by pediatric (33.3%) in our study. Most of the studies observed male and adult prevalence in trauma cases [4, 23]. Of all the trauma STI was more prevalent (41%), followed by facial fractures (31.1%). Wulkan M *et al.*, [23], also found male predominance (78%) and its peak age was between 20 and 39 years i.e. adult age group which is comparable to our studies. The major cause was interpersonal violence (48.1%), followed by fall (26.2%), run overs (6.4%), sports (5.4%), car accidents (4.2%), motorcycle accidents (3.1%), non-fall impacts (2.4%), occupational injuries (1.8%), gunshot wounds (1.2%), unspecified (1.2%), which is not comparable to our studies. Contusion is the most common injury (23.8%) followed by fractures of the mandible (21.9%), Le Fort/pan facial/complex (17.8%), nasal bones (11.6%), zygoma (10.3%), which is comparable to our study. In our study in the pediatric age group oral cavity and oropharyngeal injury was most prevalent (47.6%), followed by facial STI (33.3%), Facial fractures (14.30%) and neck trauma (4.8%) [22]. All these injuries were due to falls (100%). Collao- Gonzalez C *et al.*, [21] in his retrospective study of pediatric facial trauma in 3 years found the main cause of injury were falls and soft tissue injuries the most common type of

injury which is second in ours. The most common anatomical sites of injury were the upper limbs followed by the head and neck 36.8% and 31.2%, respectively. In the adult age group, facial STI and facial fractures were equally prevalent (42.10% each), followed by oropharyngeal trauma (10.5%) and neck trauma (5.30%). In the modes of injury RTA (42.10%) is the most common mode followed by physical assault (21%). Wulkan M *et al.*, [23], found the major cause was interpersonal violence (48.1%) followed by fall (26.2%). Contusion is the most common injury (23.8%), which is comparable to our study. Similarly, Gassner R *et al.*, [24] in his study over a period of 10 years found five major mechanisms of injury; in 38% cases it was during activity of daily life, in 31% during sports, in 12% violence, 12% traffic accidents, 5% work accidents and in 2% there were other causes. James D. Kretlow, *et al.*, [9], found violence and motor vehicle accidents as the predominant causes of injury in individuals ranging from 15 to 50 years old, which is comparable to our study. Imaging was done in only 33.3% of the cases. X-ray was done in 21.5% of the cases (all the fracture nasal bone) and CT scan was done in 11.7% of the case. One case of blunt trauma neck had undergone nasopharyngolaryngoscopy. 13.8% of the patients was managed conservatively and 86.2% had to undergo surgery. Visualization of fractures among the complex curves of facial bones is best achieved using computed tomography (CT) [25]. In such cases, evaluation may begin with a single occipitomeatal view [25, 21]. Though in most of the study CT is significantly superior to X-ray in the diagnosis of fracture of nasal bone, specially for the detection of transverse fractures of the nasal bone [25-27]. In our study, imaging was done in limited numbers cases. This may be because only the cases admitted to the ENT ward were included and most of them had sustained soft tissue injury. So, there is a need of further study which includes all these cases. In our study, 86.2% of the injuries had to undergo surgical repair. Among them primary repair was done in 56.8% (All the cases of oral cavity and oropharyngeal injury and most of the facial STI) and 9.8% cases of STI were infected and required debridement and hence secondary repair was done. In all the cases of fracture nasal bone i.e. 27.4% of all the injuries close reduction was done. Ryan J. Soose *et al.*, [28] in their study of pediatric oropharyngeal injury, had observed that most wound did not require repair. In their study, only 11.7% of wounds were surgically closed, a rate that is similar to those reported by Schoem *et al.*, [8]. This may be because most of the wound healed spontaneously and less severe injuries were not admitted in our study. Ryan J. Soose *et al.*, [8] and other studies [10-12], have recommended reserving the operating room for wounds with avulsed tissue or an obvious nasopharyngeal-oropharyngeal fistula, as well as for foreign body removal, active hemorrhage, airway concerns or exploration when awake; examination is not possible. Prior studies have reported nonneurologic

complications such as bleeding, retropharyngeal abscess, facial cellulitis, velopharyngeal insufficiency and pneumomediastinum [9-11]. Fortunately, none of such complications were observed in our study. Similarly, most of the facial STI were repaired primary except for six which were repaired secondarily because of late presentation and infection. Previous studies like in ours have supported early repair of soft tissue injuries of face [6]. Even in major trauma, while instituting the resuscitative measures, the wound may be dealt after 4-6 hours. More emphasis is done for the repair of facial soft tissue injuries as the face consists of several organs and aesthetic units. Disfigurement following trauma becomes a social stigma and has the gross detrimental effect on the personality and future of the victim. Similarly, all of the fracture nasal bone in our study was treated with close reduction technique. Close reduction of fracture nasal bone has been the standard treatment since antiquity and is the most preferred treatment modality in all acute phases of fractured nasal bones [29, 30].

## CONCLUSION

However in adults RTA and physical assault was the most common mode of injury, facial fractures and STI were equally prevalent in this age group. Adult males were prone to head and neck trauma. Soft tissue injury was the most common injury followed by facial fractures. Oral cavity and oropharyngeal injury was the most common type of injury in the extremes of ages with fall injury being the commonest mode of injury. Though the management outcomes were good and no grave complications were reported in this study, further study with larger sample size, and longer follow-ups is however recommended. Number of sample would have been much larger if outpatient cases and associated polytrauma cases could have been included which the limitations of this study are.

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