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Pattern of injuries regarding Ear, Nose, Throat & Head & Neck in patients presenting in Accident & Emergency department

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Abstract

Objective: To analyze the pattern of injuries regarding Ear, Nose, Throat and Head & Neck, in patients presenting in accident and emergency department. The role of ENT team in the management of those injuries.

Material and Methods: The study was conducted in accident and emergency department of PMC Hospital from 1st August 2015 to 31st July 2016. Each patient presenting to emergency was attended by ENT team along with casualty medical officer. Patients of all ages, both male and female, including kids, injuries at the region of Face, Nose, Ear, Throat and neck.

Results: Total number of emergency patients was 248,652. 46,328 were with history of trauma. 6,385 patients were registered. 79% were male and 21% female, 64% were adults, 16% children and 20% old aged. 40% presented with road traffic accidents, 21% with history of assaults, 18% with gunshot injuries, 12% with sports injuries, 6% with fall from height and 3% with miscellaneous trauma. In 44% of the case face was involved with injury, 26% nasal injury, 14% with oral cavity injury, 10% with neck trauma and 6% with ear injury. 10% of the patients were brought in very critical state. Patients with major injuries were rushed to operation theate for major emergency procedure. 8% of the patients required tracheostomy for either general anesthesia or to secure airway. 2 patients required cricothyrotomy as lifesaving strategy. 5% of cases required internal jugular vein ligation. 7 cases had developed carotid vessel injury in which 4 cases were successfully repaired with the help of vascular surgeon, but unfortunately 3 cases couldn't be saved due to massive blood loss. Those patients who were operated, they were admitted till fit to carry out daily activities.

Conclusion: Injuries in the regions of ENT and head & neck constitute the major portion of emergency patients. The injuries include from mild abrasions that require simple dressing to lacerated neck that requires emergency neck exploration. ENT team in emergency department has remarkable role for management of trauma cases.

Key words: Head and Neck trauma, tracheostomy, cricothyrotomy, internal jugular vein ligation, carotid vessel injury

Introduction:

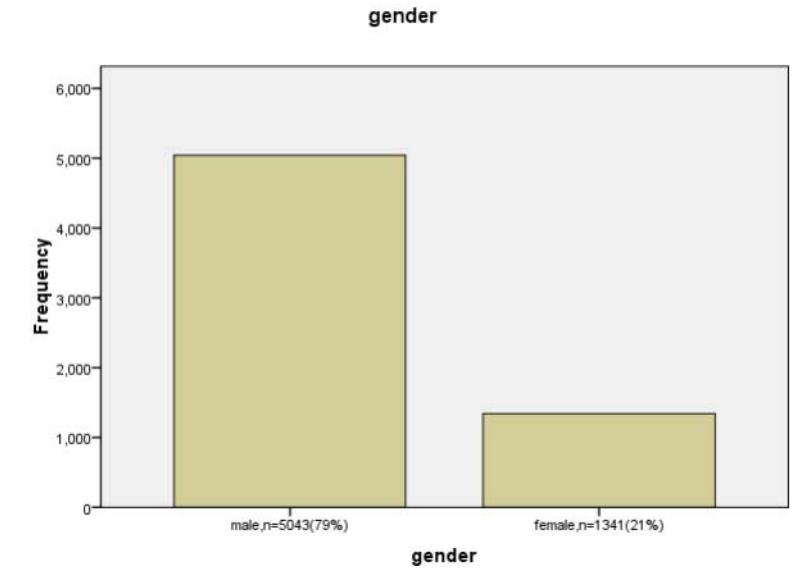
Worldwide, Otorhinolaryngological lesions are the mostcommon presentation of emergency visits especially in our setup.[1-5] In Nigeria nearly about 26.6% patients present with Otorhinolaryngological lesions which is relatively a higher percentage than reported like 10-25%.[2] In Pakistan the prompt diagnosis and treatment are the important aspects in emergency patients which decrease morbidity and mortality.[2,3] Due to increasing prevalence of road traffic accidents, industrialized disasters, head and neck emergencies poses a challenge for surgeons of ENT in emergencies.

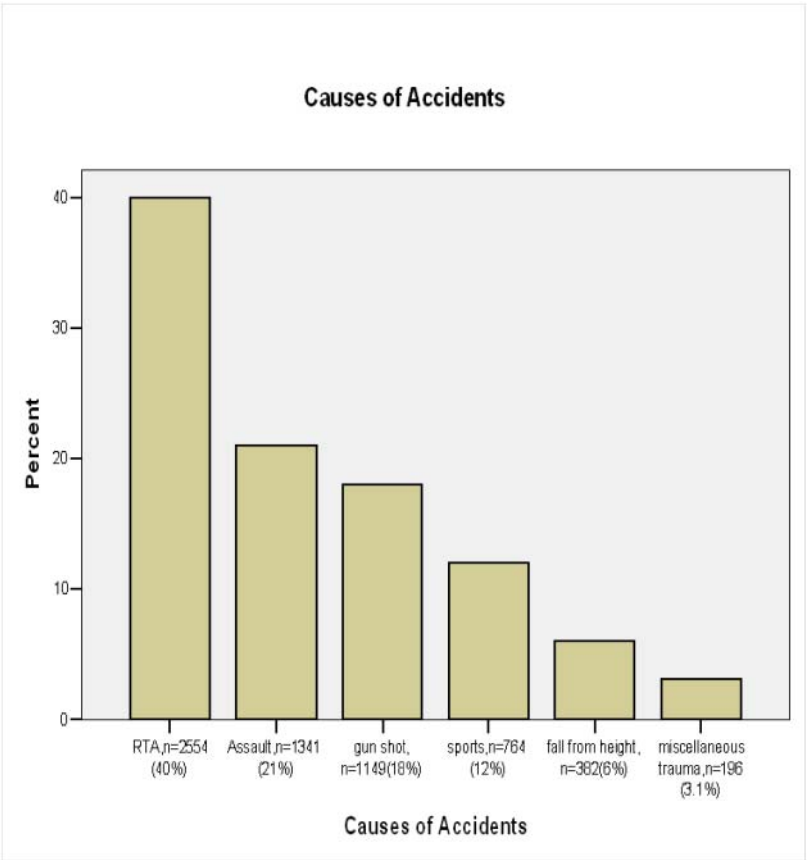
In a recent study in Peshawar 2016, neck injuries have been reported 37.5% to be commonest site involved in firearm injuries with most common younger age to be affected.[6] Adedeji et al has found most common presentations of emer-

Table 1:

type of Injuiry	Frequency (%)
Mild injuries	60%(n=3835)
Moderate injuries	30%(n=1918)
Severe / critical injury	10%(n=640)

Figure 1:





gency in ENT admissions to be nasal bleeding i.e.; epitaxial 16.1%, nasal/ facial trauma 14.7%, foreign bodies in pharngo-esophageal junction 13.3%, airway obstruction 8.1%.[7] Themortality recorded by Adedeji was 1.4% while the rest had satisfactory outcomes of 86.7%.[7] Vertigo is also most common symptom among patients presenting with ENT trauma contributing 8.2% cases among adults and 6.2% cause of emergency presentations.[7] Yojanaet al has found 75.7% patients requiring admission in hospital while 23.6% were discharged and 0.7% had mortality.[8] In his study most frequent problem 84% was faciomaxillary trauma 84% and foreign body 5.8%. In children there are increased chances of ingestion of foreign bodies because of their intrusive and explorative nature.[9] Plastic toys, metals, coins and bones are usually the particles that are ingested by the children. Foreign bodies are preventable causes and awareness among the parents and caregivers should be encouraged regarding health management.[10]

Comparisons between different studies have shown increased incidence of nasal- facial injuries and also increasing road traffic accidents which is mainly because of driver's negligence and careless driving together with bad condition of roads. Theefforts from government are required with knowledge and perception of improved roads among people is also important to apply the precautionary measures for possible accidents.

Our study was therefore aimed to identify the magnitude of otorhinolaryngological problem encountered in emergency in order to rectify and also aware people for common presentations.

Methodology:

This descriptive study was conducted in accident and emergency department of PMC Hospital from 1st August 2015 to 31st July 2016. Ethical committee review was taken. Informed consent was taken from patient or from next to kin. Each patient presenting to emergency was attended by ENT team along with casualty medical officer. We included 6,385 patients

which got registered and admitted out of 46,328 trauma patients presented in Emergency. Patients of all ages, both male and female, including children or neonates and elderly patients too were included. Also injuries at the region of Face Nose Ear Throat and neck were included in the study. The patients with trauma involving other body parts besides maxillofacial and those who presented twice due to similar complaints were excluded from the study. Informed consent was taken from patient or patient's attendant. Patients were initially managed with trauma rules of airway breathing and circulation followed by detailed history examination of head Neck and ENT examination together with systemic examination. All the initial baseline laboratory tests were carried out followed by chest radiograph, computed tomography and MRI. If any emergency procedure required was performed by emergency resuscitation team like repair of soft tissues, maxillary or nasal bone reduction, and tracheostomy.

Consults from department of neurosurgery, maxillofacial, plastic surgery and ophthalmology were also taken.

Results:

Total number of emergency patients was 248,652. Out of which 46,328 presented with history of trauma. 6,385 patients were registered. 79% (n=5043) were males and 21% (n=1341) females. There were 64% (n=4,090) were adults (age > 14-50yrs), 16% (n=7,450) children (age >1yr-14yrs) and 20% (n=1,273) oldaged (age > 50yrs) (figure1).

The cause of accidents was n= 2,555 (40%) presented with road traffic accidents, n= 1,341(21%)with history of assaults, n=1,149 (18%) with gunshot injuries, n=764 (12%) with sports injuries, n=382(6 %) with fall from height and n=196(3 %) with miscellaneous trauma (figure2). In (n=2,810) 44% of the case, face was involved with injury, 26% (n=1,665) nasal injury, 14% (n=900)with oral cavity injury, 10% (n=640) with neck trauma and (n=385) 6% with ear injury. 60% (n=3,835) of the patients were presented with minor injuries with GCS 15/15 and vitally stable. Minor injuries include Abrasions or minor lacerations, Epistaxis, Ear bleed trivial nasal trauma, Bruises, Septal hematoma. About (n=1,918) 30% of the patients with moderate degree of injury. Moderate injuries which includes non-progressive hematoma or emphysema, cut throat (without injury to trachea, esophagus or major vessels and Facial fractures. Nearly (n=640) 10% of the patients were brought in very critical state (table 1). Patients with minor injuries were discharged with oral medication after dressing or referred to other department for management of injuries at other sites. Patients with moderate injuries required surgical procedure, necessary investigations done, admitted for 24hrs observation. Patients with major injuries were rushed to operation theater for major emergency procedure. Of 8% (n=511) of the patients required tracheostomy for either general anesthesia or to secure airway. Around n=2 (0.03%) patients required cricothyrotomy as lifesaving strategy. Around n=3 (0.05%) of cases required internal jugular vein ligation. n=7 (0.1%) cases had developed carotid vessel injury in which n=4 cases were successfully repaired with the help of vascular surgeon, but unfortunately n=3 cases couldn't be saved due to massive blood loss. Those patients who were operated, they were admitted till fit to carry out daily activities.

Discussion:

In our study there was male preponderance which was similar to the findings from previous published studies.[8-14] Increased gender prevalence was because of increased occupation related exposure on roads; others not related to occupation and were bread winners. In developed countries gender inequality is not the problem in terms of occupation and thus almost equal distribution of road traffic accidents are common. In our study most common age group which was affected was adult age ranging from 14-50 years. In studies reported in our neighboring countries reported most common age affected to be 32 years i.e.; adult age. However some studies have reported elderly age to be reported more than adult age. Less commonly children

age group <5 years is affected with usual causes of foreign body ingestion are found. Yojana et al has 2.7:1 ratio of male to female with most common age affected to be 26-50 yearsof age.[8]

The most common cause of accidents in our study was road traffic accidents in 40%, n=21% with history of assaults, 18% with gunshot injuries, 12% with sports injuries, 6% with fall from height and 3% with miscellaneous trauma. In US 82.8% emergency admissions are treated and discharged.[15]

Prasad etal has found avulsion and laceration to be the most common soft tissue injuries.[11] Yojana et al has found most frequent cause of ENT emergency admission to be facio maxillary trauma in 84.0%, foreign body in 5.8% and throat infection in 5.8%.[8] In another study by Abbass et al has reported maxillofacial injury to be the most common cause ofroadtrafficaccident followed by fall.[11] Different analysis of studies points to the fact that there is a need for better road traffic awareness among people.[12-14] There should be also an emergency ambulance facility that will aid in emergency management of patient at that important time. Increased facial injuries are important because of disabling morbidity that affects quality of life of an individual.

In our study minor injuries include Abrasions or minor lacerations, epistaxis, ear bleed trivial nasal trauma, bruises, septal hematoma. Moderate injuries which includes non-progressive hematoma or emphysema, cut throat (without injury to trachea, esophagus or major vessels and Facial fractures.While the severe injuries involved 10% of the patients. Appropriate treatment at the timely management of severe burns and other severe injuries affects patient outcome. In our study patients with major injuries were rushed to operation theater for major emergency procedure in which emergency tracheostomy, cricothyrotomywas done to secure airway. Other life saving procedure were also done like internal jugular vein ligation, carotid vessel injury was successfully repaired with the help of vascular surgeon, but unfortunately only three cases couldn't be saved due to massive blood loss. Those patients who were operated, they were admitted till fit to carry out daily activities.

ENT trauma presenting in emergency is most commonly seen and therefore ORL surgeons with well acquainted knowledge on face and neck injuries must be present in emergency setups at all levels of health care delivery system and particularstress must be given for effective training programs with structured management protocols should be arranged in order to prevent this morbidity and mortality.

Conclusion:

Injuries in the regions of ENT and head & neck constitute the major portion of emergency patients. The injuries include from mild abrasions that require simple dressing to lacerated neck that requires emergency neck exploration. ENT team in emergency department has remarkable role for management of trauma cases.

Conflict of Interest: None

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Role and contribution of authors:

Dr. Dileep Kumar Khatri, Assistant Professor, conceived, designed and did statistical analysis , data collection and editing of manuscript and takes the responsibility and is accountable for all aspects of the work in ensurig that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Dr. M. Iqbal Rao, Assistant Professor, did data collection and did initial writeup of methodology, discussion and result

Dr. Mushtaque Ali, Assistant Professor, helped in data collection and collection of references, and also helped in introduction, methodology, conclusion writing.

References:

1. Signorelli LG, Mendes E de A. Prevalence of otorhinolaryngologic diagnoses in the pediatric emergency room. International Archives of Otorhinolaryngology. 2013;17(1):10-13. doi:10.7162/S1809-97772013000100002.
2. Ugare G, Ndifon W, Bassey I, Oyo-Ita A, Egba R, Asuquo M et

al.Epidemiology of death in the emergency department of a tertiary health centre south-south of Nigeria. African Health Sciences2012;12(4):530–7.
3. Bhatti MA, Ajaib MK, Masud TI, Ali M. Road traffic injuriesin Pakistan: Challenges in estimation through routine Hospital Data. J AyubMedCollAbbotabad 2008;20:108-11.
4. Baek MK, Jung JH, Kim ST, Kang G. Delayed treatment of Zygomatic Tetrapod Fracture. ClinExpOtorhinolaryngol 2010;3:107-9.
5. Fazal I Wahid, Muhammad Riaz Khan, Muhammad Masood Khan, , Muhammad Javaid, , BakhtZada. Pattern of firearm injuries in head and neck regions at a tertiary care hospital.J Pak Med Assoc 2016;66(7):849-52
6. Mashamba VS. Otorhinolarygologicaltrauma among patients with head and neck injury admitted at muhimbilinational hospital dares salaam, tanzania.
7. Adedeji, T. O., Sogebi, O. A., &Tobih, J. E. (2015). Pattern of Otorhinolaryngological Admissions via Emergency Unit in a Suburban Tertiary Center. International Journal of Biomedical Science : IJBS, 11(3), 146–151.
8. Yojana, S., Mehta, K., &Girish, M. (2012). Epidemiological Profile of Otorhinolaryngological Emergencies at a Medical College, in Rural Area of Gujarat. Indian Journal of Otolaryngology and Head & Neck Surgery, 64(3), 218–224. http://doi.org/10.1007/s12070-011-0293-8
9. Stoner MJ, Dulaurier M. Pediatric ENT emergencies. Emerg. Med. Clin. North Am. 2013;31(3):795–808
10. Kitcher ED, Jangu A, Baidoo K. Emergency Ear, Nose and Throat Admissions at the Korle-Bu Teaching Hospital. Ghana Med. J. 2007;41(1):9–11.
11. Prasad KC, Prasad SC, Shenoy S, Kumar A. Management of head and neck trauma in a developing country. Indian J Otolaryngol Head Neck Surg. 2009;61(suppl 1):35–43. doi: 10.1007/s12070-009-0015-7.
12. Abbas I, Fayyaz M, Shah I, Khan MA, Qazi SH, Munir N, Bibi A, Abbasi M. Demographic distribution of maxillofacial fractures in Ayub Teaching Hospital: 7-year review.J Ayub Med Coll Abbottabad. 2009 Apr-Jun; 21(2):110-2.
13. Barman D, Maridal S, Goswami S, Hembram R. Three years audit of the emergency patients in the department of ENT of a rural medical college. J. Indian Med. Assoc. 2012;110(6):370–374.
14. Upile T, Jerjes W, Sipaul F, El Maaytah M, Nouraei SAR, Singh Sandeep Hooper Colin, Wright A (2007) The role of surgical audit in improving patient management; nasal hemorrhage: an audit study. BMC Surg. 7–19 http://www.biomedcentral.com/1471-2482/7/19. Accessed 20 Dec 2010
15. Kindermann D, Mutter R, Pines JM. Emergency Department Transfers to Acute Care Facilities, 2009. HCUP Statistical Brief #155. Agency for Healthcare Research and Quality. May 2013.