ENT Manifestations in Head Trauma: Clinical Presentation and Outcome

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ABSTRACT

Introduction- Road traffic accidents (RTA) and other forms of trauma (interpersonal conflict/ assault) pertaining to the head is an important area of concern in the field of Otorhinolaryngology as vital sensory end organs are located here.

Materials and method-This prospective study was done at Saveetha Medical College and Hospital Chennai over a period of six months. Over 150 patients were registered as RTA and screened for ENT related trauma through history and examination, out of which 70 patients showed manifestations of ENT Trauma.

Results- Out of the total 70 patients presenting with ENT related trauma, the percentage of minor injury was 12%, soft tissue injury was 22%, and fracture was 46%. Various signs and symptoms like bleeding from Nose (26%), ears (10%), mouth (16%), head (15%), Inability to chew (20%) and inability to close mouth (10%), decreased hearing (12%) and inability to smell (10%) were encountered.

Conclusion-The morbidity, mortality, disability and economic loss occurring because of the road accidents are irreparable. Young male adults were the most prevalent victims of ENT trauma, and Road traffic accidents were responsible for the majority of the ENT injuries. Screening of all the patients with head trauma for the presence of ENT related manifestations should be introduced to enable early detection and prevention of complications.

INTRODUCTION:

Road traffic accident (RTA) is defined as an event that occurs on a way or street open to public traffic resulting in one or more person being injured or sometimes killed, where at least one moving vehicle is involved. The Otorhinolaryngological problems associated with RTA are grave and life threatening. All the important structures are located in the head and neck (eyes, ear, nose and oral cavity). The nose is a prominent structure on the face and bones of the face too are liable to get traumatized. Facial cosmesis and restoration of physiology of sensory organs are needed and the study had 26% patients with epistaxis, 10% bleeding from ear and 16% had oral cavity bleed which highlights significance of Otorhinolaryngologists. Hence, this study was undertaken to highlight the necessity of specialist (ENT) inclusion in the emergency department.

MATERIAL AND METHODS:

It is a six months prospective study which was carried out at Saveetha medical college and Hospital, Thandalam, Chennai from 20/1/22 to 21/7/22. Over 150 patients with the history of RTA have been taken survey. Patients who came to the emergency department were analyzed and only those patients who were having facial or head neck trauma were selected (70 patients). Informed consent and ethical issues were addressed for research purposes.

A detailed history specially in reference to age, sex, residence, occupation, mode of trauma, presenting symptoms, general examination, local otorhinolaryngological examination was done on all the patients and noted on a specific proforma after taking an informed consent.

The following routine and special investigations will be performed in case as per requirement:

1. Routine biochemical and haematological examination:
   (a) Blood (haemoglobin, TLC, DLC, ESR, platelet count, RBS, urea)
   (b) Coagulation profile (BT, CT, PT-INR)
   (c) Urine—R/M (sugar, albumin and microscopy)

2. Otoscopic examination.

3. Anterior rhinoscopy, posterior rhinoscopy and sinus examination.

4. Endoscopic examination.

5. X-ray:
   - PNS (water’s view)
   - Nasal spine (AP and lateral)
   - B/L mastoid schuller’s view
   - mandible and TM joint (AP and lateral view)
   - OPG

6. CT Scan.
7. CSF examination.

RESULTS:

Patients from 0 to 70 age groups were taken and out of which 43 were male and 27 were female. Maximum number of patients with ENT manifestation were of 21-30 age groups followed by 31-40 age groups. (Table 1):
The aetiology of the cause is mentioned above.

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<tr>
<th>AGE (Years)</th>
<th>NO of Patients (N = 70)</th>
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<tbody>
<tr>
<td>0 - 10</td>
<td>05</td>
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<td>11 - 20</td>
<td>12</td>
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<td>21 - 30</td>
<td>25</td>
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<td>61 - 70</td>
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Some of the common sign and symptoms like Epistaxis - bleeding from nose - **39 patients** (26%), Bleeding from ears - **15 patients** (10%), Haemorrhage of oral cavity - **24 patients** (16%), Inadequate mouth opening/Inability to chew because of fractures and oral injuries - **30 patients** (20%), Inability to close mouth because of fractures - **15 patients** (10%), Diplopia - **3 patients** (2%), Hard of Hearing - decreased hearing - **18 patients** (12%), facial nerve injury - **8 patients** (5%), deformity of face - **3 patients** (2%) and Hyposmia/Anosmia - inability to smell - **15 patients** (10%) were seen. Also manifestations of CSF Otorrhoea and CSF Rhinorrhoea, Laryngeal cuts and Injuries were screened for. Here The Same person reports multiple signs and symptoms/ The patient represents more than one complaint. These are the Common signs and symptoms seen in RTA and Head Trauma cases. Among ENT manifestations There is a Pattern of injury / Segregation of the Patients:

![Symptoms and Manifestations](image)

<table>
<thead>
<tr>
<th>Segregation of Patients</th>
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<tr>
<td>Ear</td>
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<tr>
<td>No of Patients</td>
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<td>40</td>
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From the Above Data and values, We can clearly see that among ENT Complaints and Complications, trauma to the nose had the highest incidence. So there is an increased incidence of ENT manifestations in Head trauma and RTA.

**DISCUSSION:**
Road traffic accidents are a leading cause of mortality and morbidity globally. If no action is taken, road traffic crashes are predicted to result in the deaths of around 1.9 million people annually by 2021. Hence the goal of the United Nations’ Decade of Action for Road Safety 2011-2020 is to save five million lives. Road traffic accidents is a big problem faced by our country. RTAs are quite higher in urban areas than rural areas. Out of the 150 patients screened, 70 patients suffered with ENT related trauma. Working age group males were more affected than females. Unfortunately, 40% of the selected sample were under the influence of alcohol. From the above patient sample here is an outlook that only 38 patients (25%) were wearing Helmets/ Head Guard which is the reason they have got minor injuries and no grievous injuries and they were treated and sent within couple of hours. In the 150 patients, around 45-50 (30-34%) patients were admitted in hospital for a minimum of 3 days to check their progress and 12 patients died (8%) within fraction of time when they reached the emergency unit.

Head and neck trauma represents one of the most frequent sites of a traumatic event and a major cause of death or debilitating disease due to mechanical injuries. However, even in major trauma, most of the lesions of the cephalic extremity are minor injuries, most often not requiring any ENT treatment. In these circumstances, especially in severe trauma, ENT exam is postponed until life-threatening lesions are stabilized. Due to minor symptoms, frequently spontaneously resolved during recovery for other lesions, the patient will skip the head and neck examination. Hearing loss following head injury is a major medical problem in both adults and children, which may go unnoticed when it does not affect speech frequencies. Sensorineural hearing loss at high frequencies is a common finding in minor head injury. Higher the frequencies affected, and severe the hearing loss, poorer was the prognosis.

**CONCLUSION:**
From the Above Research, it is noted that, there is an increased incidence of ENT manifestations among patients with History of Head Trauma and RTA cases. Hence a thorough and complete examination by a specialist ENT doctor is mandatory for all patients with head and neck trauma to prevent any further complications.

**REFERENCE:**