## **Original Research Article**

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# Ear, nose and throat emergencies: an experience in rural area

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#### **ABSTRACT**

**Background:** Ear, nose and throat (ENT) emergencies are very common throughout the world. Early diagnosis and prompt treatment in the hands of expert will result in reduction of morbidity, mortality and referrals.

**Methods:** This retrospective study was conducted on 352 patients reporting in out-patient department (OPD) and emergency of District Hospital Ramban from June 2016 to May 2017. Demographic data as well as diagnosis were studied. The type of anaesthesia and type of procedure and outcome of emergency case were recorded. Patients with terminal cancer care admitted were excluded from the study.

**Results:** A total of 352 patients, 204 males and 148 females were included in present study. The commonest emergency was foreign body (69.03%), trauma (11.9%), epistaxis (9.6%), and abscess (6.8%). Procedures done were foreign body removal, fracture reductions, soft tissue injury repair, incision and drainage, packing and cauterisation.

**Conclusions:** Foreign body is the most common cause of ENT emergency and it is a preventable accident. Education of parents and public at large will go a long way in reducing these preventable mishaps in children. Timely management of emergencies in the hand of experts reduces the mortality and complication rate.

Keywords: Emergencies, Foreign bodies, Trauma, Abscess, Epistaxis

#### **INTRODUCTION**

Ramban is a town in district Ramban of Jammu division of union territory of Jammu and Kashmir with a district hospital which caters a population of 2,83,713 of whole district Ramban. The town is located midway between Jammu and Srinagar along the Chenab river, on National Highway-44, (originally National Highway 1A (India), approximately 150 km from Jammu and Srinagar. Agriculture is the main occupation of the rural people. Maize, wheat, paddy and pulses are the important crops grown in the district; rice is the staple diet of the people. The harvesting season is October-November during which people keep heaps of maize and rajmash in their houses which become easily available to children as playing objects leading to high incidence of foreign body insertion of these items in nose and ear. Also people live in kachcha

houses made of clay, mud and hay. Due to cold condition of the area people prefer to keep their cattle in the same shed where they themselves are living, to avoid adversaries of the extreme cold conditions due to which they are more prone to insects crawling in their ear and nose in monsoon season.

ENT emergencies are common in all communities. Early diagnosis and prompt management will result in reduction of morbidity and mortality. Most of the ENT emergencies are managed without general anaesthesia (GA) using local anaesthesia (LA) in form of spray or injections.

A foreign body (FB) of ENT is an object which lodges into a craniofacial orifice which includes the ear, nose, or throat. FBs in the ENT are a common presentation in otorhinolaryngology (ENT) emergency services.<sup>3</sup>

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Infections play a major role in the practice of ENT. Microbial penetration into tissues of the head and neck can initiate a focal reaction causing superficial self-resolving infections. However, some of these have the potential to develop into life-threatening disease.<sup>4</sup>

The study was undertaken to assess the ENT emergencies workload in a typical district general hospital (DH, Ramban), their management and referral to tertiary care centres. In this study, we present analysis of 352 ENT emergencies managed in terms of their size and distribution and different treatment modalities used for patient at district hospital Ramban.

#### **METHODS**

This retrospective study was conducted on 352 patients reporting in out-patient department (OPD) and emergency of district hospital Ramban under supervision of 2 ENT surgeons from June 2016 to May 2017. Demographic data as well as diagnosis were studied. The type of anaesthesia and the type of procedure and the outcome of emergency cases were recorded.

Patients of all ages with emergencies attending ENT OPD and emergency department were included in the study. Patients with history of suspected FB but where no FB was found after examination were excluded. Patients with terminal cancer care admitted were excluded from the study.

Statistical Package for the Social Sciences (SPSS) software was used as statistical tool to analyze data.

#### **RESULTS**

A total of 352 patients made up of 204 males and 148 females were included in present study. Male to female ratio was 1.37:1. Peak age incidence was 0-10 year's age group as depicted in Table 1 and Figure 1 and 2.

Youngest was 6 months and eldest was 84 years. The commonest cause for ENT emergency was foreign bodies in 243 (69.03%) patients followed by trauma in 42 (11.93%) patients, epistaxis in 34 (9.65%) patients and abscess in 24 (6.81%) patients. In foreign body, most common was foreign body ear (54%), followed by nose (35.4%) and throat (10.6%) as shown in Figure 3.

| Age group (in years) | Foreign body | Trauma     | Epistaxis | Abscess   | Others   |
|----------------------|--------------|------------|-----------|-----------|----------|
| 0-10                 | 202          | 15         | 3         | 4         | 1        |
| 11-20                | 34           | 5          | 4         | 6         | 2        |
| 21-30                | 1            | 3          | 13        | 5         | 1        |
| 31-40                | 2            | 1          | 11        | 5         | 2        |
| >40                  | 4            | 18         | 3         | 4         | 3        |
| Total (%)            | 243 (69.03)  | 42 (11.93) | 34 (9.65) | 24 (6.81) | 9 (2.55) |

Table 1: ENT emergencies age group wise.

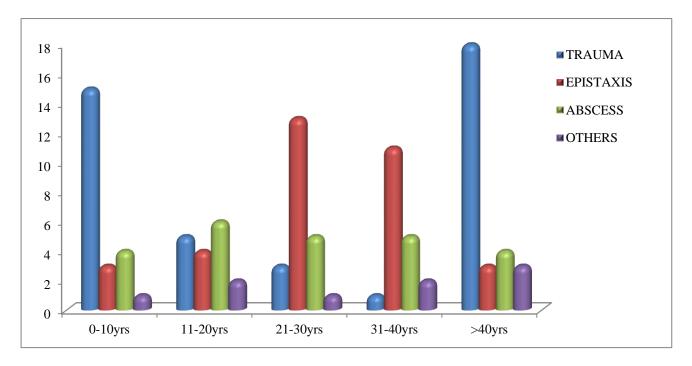


Figure 1: ENT emergencies age group wise excluding foreign bodies.

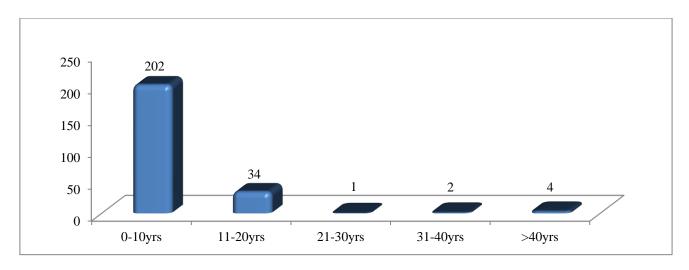


Figure 2: Incidence of foreign bodies in different age groups.

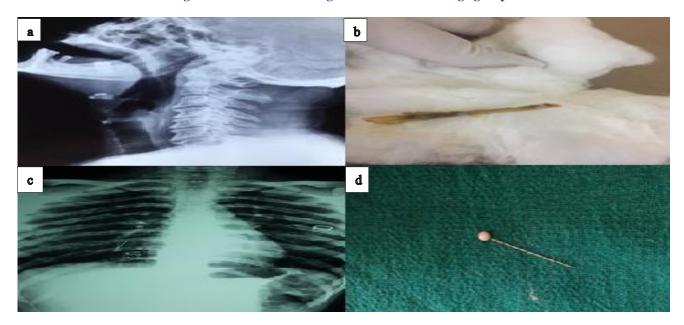


Figure 3: (a) and (b) FB in oesophagus removed by hypopharyngoscopy, (c) and (d) FB in tracheobrochial removed by bronchoscopy.

Trauma was seen in 42 patients in which fracture reduction was done in 11 patients and tissue repair was done in 30 patients as shown in Figure 4.

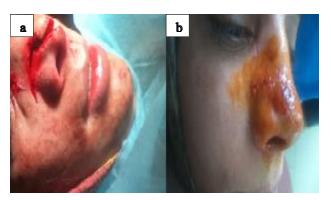


Figure 4: Trauma (a) before repair and (b) after repair.

Epistaxis was seen in 34 patients in which 22 patients were treated by chemical cauterisation and 11 were treated with ANP and 1 patient required PNP.

24 patients with abscess were seen and treated by incision and drainage method under local anaesthesia.

### **DISCUSSION**

In the present study a total of 352 patients made up of 204 males and 148 females were included. The males to female ratio were 1.37:1 showing male preponderance which is in consistence with studies done by Kitcher et al and Khan et al.<sup>2,5</sup>

Peak age incidence in our study was 0-10 year's age group which is consistent with study done by Kitcher et al.<sup>5</sup> The predisposing factor to high incidence in this age group was

poor parental care or attention and easy accessibility of grains in harvesting season.

The commonest causes of ENT emergency admission in our study were foreign bodies in ENT followed by trauma and epistaxis and abscess which is consistent with study done by Mukhtiar et al but differ from study done by Perez et al where the commonest causes of admission was epistaxis, otitis media and otitis externa.<sup>2,6</sup> The difference between the 2 findings is because the published series were on patients in advance countries and our study is conducted in rural and hilly areas of a developing country. In this study, foreign bodies in ear had the highest incidence (54%) followed by nose (35.4%) and throat (10.6%) which is consistent with studies done by Jondhale et al and Gawarle et al most common foreign bodies removed were kidney beans, maize, insects, buttons, pebbles, bone chip, fish bone, needles, cotton balls, stick, pea and peanut.<sup>7,8</sup> Maximum number of cases (202) were seen in 0-10 years age group and least number of cases (4) were seen in >40 years age group. Children are common victims due to their tendency to put things in their natural orifices like ear, nose and mouth, inability to masticate well and inadequate control of deglutination as well as the tendency to cry, shout, play during eating.8 The foreign bodies were managed by simple removal techniques using hook, forceps, syringing. Hypopharyngoscopy and oesophageal foreign body were removed using direct laryngoscopy and hypopharyngoscopy. Tracheobronchial foreign body were removed by rigid bronchoscopy. Craig in his paper on removal of ENT foreign bodies in children has mentioned a non-invasive option for nasal foreign bodies known as 'mother's kiss' technique, which requires the assistance of a trusted adult caregiver. 9 It is a useful and safe first-line technique, however, is more than simply blowing into the child's mouth:

"While occluding the unaffected nostril with a finger, the adult then blows until they feel the resistance caused by closure of the child's glottis, at which point the adult gives a sharp exhalation to deliver a short puff of air into the child's mouth. This puff of air passes through the nasopharynx, out through the un-occluded nostril and, if successful, results in the expulsion of the foreign body." <sup>10</sup>

Other techniques include using positive pressure from a bag-valve-mask, applying high flow (10-15 l/min) wall oxygen to the unaffected nostril or asking the adult carer to blow into a drinking straw placed in the child's mouth.<sup>11,12</sup>

District hospital Ramban is on accident prone patch of NH-44. So, the hospital receives accident cases on highway leading to head and neck trauma which constituted 11.9% of patients. In these patients fracture reduction was done in 12 patients and repair of soft tissue injuries was done in 30 patients. Nasal fractures were managed under local anaesthesia. Owen et al and Staffel et al mentioned fracture reduction under local anaesthesia perfectly adequate and acceptable. Soft tissue injury was repaired under local

anaesthesia in majority of the patients. Only 1 patient required GA which was having multiple fractures and severe lacerated wounds on body.

In our study epistaxis was seen in 34 patients with highest incidence (18) in age group >40 years. Most common reason being harsh climate in hilly areas leading to drying of nasal mucosa. Epistaxis was managed by chemical cauterisation in 22 patients, anterior nasal packing in 11 patients and 1 patient required PNP. Kotecha et al in his study managed epistaxis by direct control of bleeding point. Tan and Calhoum et al in their study used ribbon gauze impregnated with petroleum jelly or BIPP for nasal packing to tamponade the bleeding site. The study was also before the study used ribbon gauze impregnated with petroleum jelly or BIPP for nasal packing to tamponade the bleeding site.

In our study, abscesses were seen in 24 patients. Most common were peritonsillar abscess followed by submandibular, parotid, mastoid, periauricular and septal abscess. Incision and drainage were done in all of them under local anaesthesia and broad-spectrum antibiotic cover.

Other causes of ENT emergency admissions were acute vertigo, orbital cellulitis, stridor and dysphagia. 2 patients required referral to tertiary care hospital. Rest all were treated.

In the present study all the patients were seen by ENT surgeons, one of them was senior consultant. Mortality rate is nil and referral rate is also low as only 2 patients out of 352 were referred to tertiary care centre.

#### **CONCLUSION**

Foreign body is the most common cause of ENT emergency and it is a preventable accident. Education of parents and public at large will go a long way in reducing these preventable mishaps in children. Timely management of emergencies in the hand of experts reduces the mortality and complication rate. Mass media should be utilized to draw attention and disseminate awareness amongst masses regarding preventive measures.<sup>17</sup>

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Institutional Ethics Committee

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