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Original Research Article

Foreign bodies in the ear, nose and throat: an experience in a tertiary care hospital

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ABSTRACT

Background: The aim of this study was to analyze foreign bodies in terms of type, site, age and method of removal.
Methods: A prospective study was performed in the department of ENT, head and neck surgery in the tertiary care hospital of Muzaffarnagar medical college, Muzaffarnagar, UP. The study population includes the number of patients with ENT FB lodgment who presented in the outpatient department or in the Casualty room during the 1-year study period (June 2021 to May 2022).
Results: A total of 83 patients had FBs in the ear, nose, or throat during the study period. Of the 83 patients, 38 (45.7%) had FB in the ear, 31 (37.34%) in the nose, and 14 (16.8%) in the throat. The FB was animate (living) in 11 (28.9%) patients with FB in the ear and 02 (6.45%) patients with FB in the nose. The FB was inanimate (non-living) in 14 (100%) patients with FB in the throat, in 27 (71.05%) patients with FB of the ear, and in 29 (93.54%) patients with FB of the nose. The FB was removed with or without local anesthesia in 66 (79.51%) patients, only 17 (20.48%) patients required general anesthesia. The most common age group affected was <10 years.
Conclusions: The ear was the most common site for foreign bodies in young children followed by the nasal foreign bodies and throat (esophageal>inhaled) foreign bodies.

Keywords: Foreign bodies, Ear, Nose, Throat

INTRODUCTION

A 'foreign body' is an object or substance that is inappropriately situated in a particular anatomical location. The presence of FBs in the ENT region is common problem frequently encountered in both children and adults and account for approximately 11% cases of oto-rhino-laryngological emergencies.[1,2] FBs can be introduced by self or accidently. FB may be classified as animate (living) and in-animate (nonliving). The inanimate FBs can further be classified as organic or inorganic and hygroscopic (hydrophilic) or non-hygroscopic (hydrophobic).[3] FBs are more common in younger children less than five years of age.[1,2,4,5] Diagnosis is often deferred because the causative event is usually undetected, the symptoms are nonspecific, and patients often are misdiagnosed initially. Most of the foreign bodies of ear and nose can be removed by a skilled ENT surgeon in the OPD with minimal risk of complications. Common removal method includes: forceps, syringing and suctioning for aural FB. Ring curette or Eustachian tube catheter for nasal foreign bodies. Pharyngeal or tracheal foreign bodies are medical emergencies and most of them require removal under general anesthesia.

METHODS

A prospective study was performed in the department of ENT, head and neck surgery in the tertiary care hospital of Muzaffarnagar medical college, Muzaffarnagar, UP. The

study population includes the number of patients with ENT FB lodgment who presented in the outpatient department (OPD) or in the Casualty room during the 1-year study period (June 2021 to May 2022). Anterior rhinoscopy and otoscopic examination were performed to diagnose FB of the nose and ear, respectively. Rigid nasal endoscopic examination was also performed in suspected cases of FB in the nasal cavity that was not visualized with anterior Rhinoscopy. Instruments such as Jobson-Horne probe, FB hook, Tilley's forceps, and crocodile forceps were used in FB removal from the nose and ear. Syringing and suctioning were other methods for FB ear removal. Plain X-ray (Both antero-posterior and lateral views) of the neck was done in patients with a history of FB ingestion. Rigid nasopharyngoscopy and endoscopic laryngoscopy and upper gastrointestinal endoscopy were done for removal and in cases where the FB was not visible in X-ray, a check endoscopy to rule out presence of an FB.

RESULTS

A total of 83 patients had FBs in the ear, nose, or throat during the study period. Of the 83 patients, 38 (45.7%) had FB in the ear, 31 (37.34%) in the nose, and 14 (16.8%) in the throat.

Table 1: Distribution of patients according to the site and type of foreign body.

Parameters		N
Ear (N=38)	Animate	11
	Inanimate	27
Nose (N=31)	Animate	02
	Inanimate	29
Throat (N=14)	Animate	00
	Inanimate	14
Total		83

Table 2: Distribution of patients according to age.

Age (years)	N	%
<10	37	44.57
11-20	19	22.89
21-30	08	9.63
31-40	03	3.61
41-50	11	13.25
>50	05	6.02

The FB was animate (living) in 11 (28.9%%) patients with FB in the ear and 02 (6.45%) patient with FB in the nose. The FB was inanimate (non-living) in 14 (100%) patients with FB in the throat, in 27 (71.05%) patients with FB of the ear, and in 29 (93.54%) patients with FB of the nose. The FB was removed with or without local anesthesia (LA) in 66 (79.51%) patients, only 17 (20.48%) patients required general anesthesia (GA). The most common age group affected was <10 years.

Table 3: Distribution of patients according to gender.

Gender	N	%
Male	56	67.46
Female	27	32.54

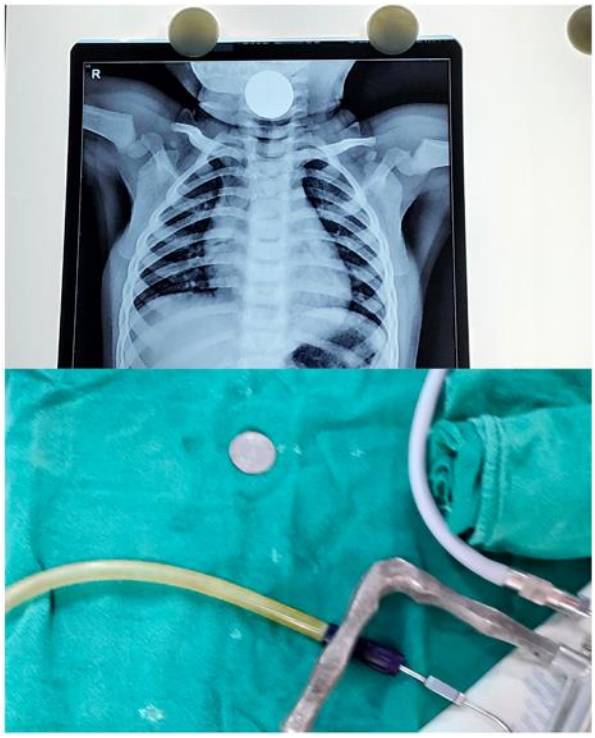

Figure 1: Foreign body ingestion (coin) removed with the help of esophagoscopy.

Figure 2: Foreign body nose removed with the help of Eustachian tube catheter

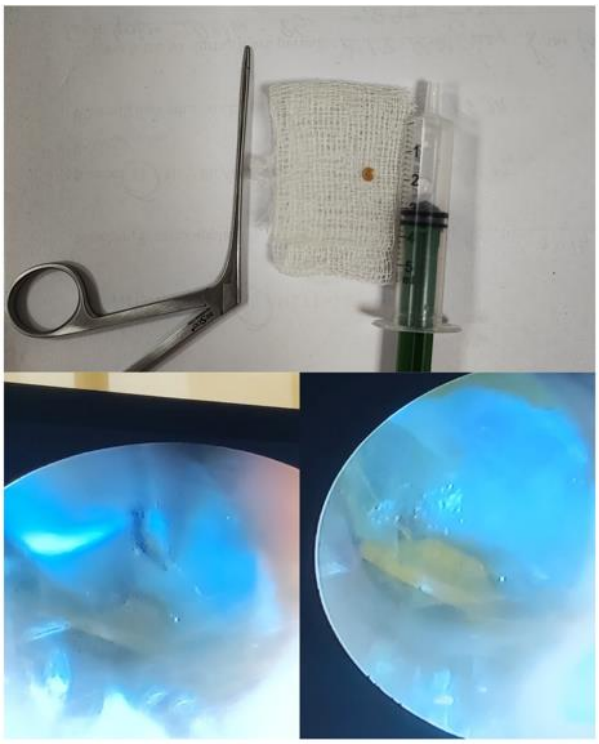

Figure 3: Foreign body left ear removed with the help of crocodile forcep.

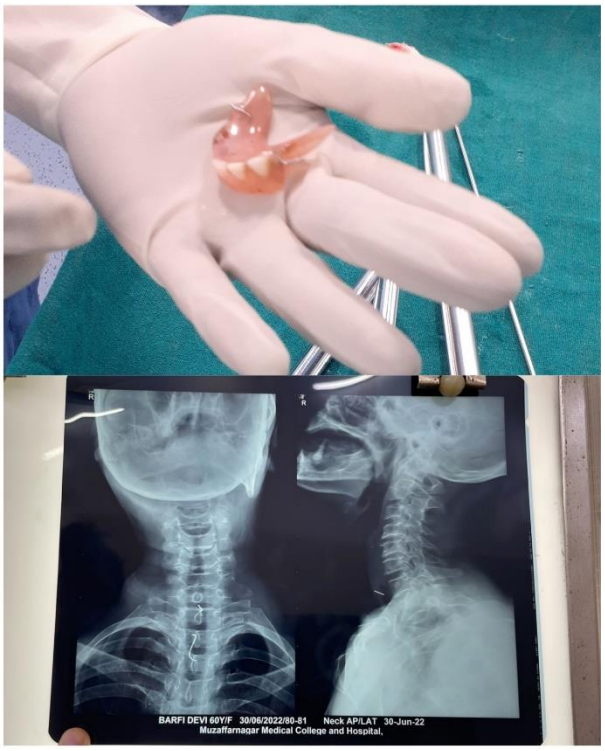

Figure 4: Foreign body ingestion (denture) removed with the help of esophagoscopy.

DISCUSSION

The present study considered patients examined for ENT foreign bodies in the emergency department and out-patient department of tertiary hospital of Muzaffarnagar medical college for the duration of 1 year (from June 2021 to May 2022). The 83 cases of ENT FBs accounted for nearly 10% of 843 patients examined in the emergency during this time frame. According to the literature, FBs account for approximately 11% of the cases observed in ENT emergency services.[6] In our study, children under the age group less than 10 years were the maximum making 44.57% of the total patients. Male patients were 56 (67.46%) whereas females were 27 (32.54%). These findings are in accordance with the other articles that claims FBs being more common in children around 6 years of age.[6,7] An analysis of the literature reveals that the mouthing activity of children appears to be the most important factor. Insertion of FBs by the little children may also be precipitated by boredom and frustration, or they also may be mimicking the unhealthy habits of ear and nose picking by adults.[1,8] Patients with underlying psychological problems are prone to FB insertion; suitable measures should be taken to prevent them from putting FBs in their nose or ears.[9]

Many studies in the literature reported aural FBs as the most prevalent.[10,11] The present study results also concludes that aural FBs were the most common 12 (14.45%), followed by nasal FBs 31 (37.34%), ingested FBs (16.8%), and inhaled FB 2 (2.40%). In our study, the most common site of FB lodgment was the ear, which is in corroboration with other studies that reported similar rates of occurrence of ENT FBs.[12,13] In our study, the FB was removed with or without LA in 66 (79.51%) patients whereas only 17 (20.48%) of the patients required removal under GA. All 12 (100%) patients with swallowed FBs required GA for removal. There were no complications during removal, but hospital observation was done for the cases done under GA for minimum one day. There were 2 (100%) cases of inhaled FBs in our study, which were removed by bronchoscopy and required longer period of hospital stay as compared to ingested foreign bodies.

The common nasal FBs mentioned in the literature include beads, buttons, toy parts, pebbles, candle wax, food, paper, cloth, and disc batteries. Most nasal FBs can be removed with direct visualization using a forceps, curved hooks, or suction catheters.[14,15] In our study, common nasal FBs included bead, button and pea. All the nasal foreign bodies were removed with the help of jobson-horne probe, forceps, suctioning and FB hook with or without LA. No nasal FB was removed under GA. The complications that occurred were usually related to repeated attempts at removal.[16] 28.57% of the 14 cases with nasal FB complaint of nasal bleeding which was managed conservatively and the patients were allowed to go home post-observation.

CONCLUSION

FB's may vary widely in shape, size, and composition, and the symptoms may range from asymptomatic to acute life-threatening condition. The ear was the most common site for FBs in young children, who not only insert objects in

their ears but also into the ears of their siblings and friends. Patients or parents of children might attempt removal by themselves or by the help of any unqualified person. Common ear FB's include cotton wool, bean, bead, paper/plastic, eraser, insect, paddy seed, and popcorn kernel. Patients usually present with earache, aural fullness, or ear discharge. A high incidence of living FB's in our study is explained by the fact that the people in the villages go to the jungle to graze cattle. Our study showed that there is predominance of FB's in the nose in younger children. Methods used to remove foreign bodies of ear were suctioning, syringing, forceps removal, hooks and probes. For nasal foreign bodies methods used for evacuation were suctioning, forceps, hooks and probes. Foreign body throat (both ingested and inhaled) were removed with forceps. Unilateral, foul-smelling, purulent nasal discharge in children must be regarded as due to FB until proved otherwise. FB in the nose or ear is usually unilateral, although it can be bilateral, as in one of our patients with FB grams in both nasal cavities and another case of FB erasers in both the external auditory canals. Sometimes there can be multiple ear or nose FB's as well. Plain X-ray of Soft tissue in the neck is a cost-effective radiologic examination method useful in the evaluation of FB in the throat in patients with history of FB ingestion. Direct laryngoscopy was occasionally useful in the evaluation and removal of FB in the oropharynx and hypopharynx. FB's from the digestive tract are usually removed by rigid esophagoscopy. But flexible upper gastrointestinal endoscopy is useful especially in the case of ingestion of radiolucent FB's. Moreover, it helps to detect the site of impaction especially in patients with cervical spondylosis where neck extension is not possible and to remove the FB.

Recommendations

Current study recommends that education should be encouraged in the people, especially the caretakers or guardian of children. Underlying predisposing ailments should be treated. People should advise not to insert anything in the orifices. It also highlights the importance of public health awareness regarding foreign bodies insertion and its related consequences.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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