Section: ENT

Original Research Article

FOREIGN BODIES IN EAR NOSE AND THROAT: EXPERIENCE IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Foreign bodies (FBs) in the ear, nose, and throat (ENT) are frequent presentations in emergency and outpatient settings, especially among children. Prompt identification and management are crucial to prevent complications. **Objective:** To evaluate the types, clinical presentation, management, and complications of ENT foreign bodies encountered in a tertiary care center.

Materials and Methods: A retrospective study was conducted analyzing cases of ENT foreign bodies over a specified period. Data regarding patient demographics, type and location of foreign body, symptoms, anesthesia requirements, and complications were collected and analyzed.

Results: Ear foreign bodies were the most commonly encountered (46.8%), followed by esophageal (25.5%), nasal (20%), and oropharyngeal (7.7%) FBs. The majority of patients (44.7%) were under 10 years of age. Insects, seeds, and bones were among the most frequently retrieved foreign bodies. Most removals were successful under local or no anesthesia (63.8%), while 36.2% required general anesthesia. Notable complications included tympanic membrane perforation (14.5%) and one case of esophageal perforation.

Conclusion: ENT foreign bodies are predominantly seen in children and require timely, skilled management to prevent complications. Awareness among caregivers and early referral to ENT specialists can significantly improve outcomes.

Key words: Foreign body, ear, nose, throat, complications.

INTRODUCTION

Among all the cases that attend the OPD and Emergency in ENT, foreign bodies form a significant percentage. Some of these cause a lot of distress to the patient and may also increase mortality and morbidity. The safe and timely removal of foreign body is essential for a good outcome without complications.

Objectives

1. To evaluate the nature, site and modes of presentation of various foreign bodies in Ear, Nose and Throat.
2. To evaluate the modes of removal of foreign bodies in ear, nose and throat.

Review of Literature

1. In an article published in the International archives of Otorhinolaryngology in 2009 by de Silva et.al. titled "Foreign bodies in Otorhinolaryngology" it was observed that most cases with prior manipulation for removal of the foreign body by unskilled professional or by laypeople evolved into complications and showed that the management of such patients must be carried out by the otorhinolaryngologist and with the use of suitable material. The large number of cases of foreign body in the ear, nose and throat are easily solved; but it is critical to remark that in cases where there is technical difficulty or lack of cooperation of the patient, we must choose the removal in a surgical center under sedation or general anesthesia, by thus avoiding iatrogenic complications.
2. In a study by Qahtani et al titled "Foreign bodies in Otorhinolaryngology" published in Saudi Journal in 2020 it was concluded that Otorhinolaryngological foreign bodies are found most frequently in preschool-aged children. The

most common site in children was the bronchus, and the most common site in adults was the esophagus. Prevention measures are essential to reduce the risk of ingestion and admission, which can be challenging.

3. In a study by Al-Juboori. Et al published in 2013 titled Aural Foreign Bodies: Descriptive Study of 224 Patients in Al-Fallujah General Hospital Iraq, it was found that proper instrumentation allows the uncomplicated removal of many EAC foreign bodies. The use of general anesthesia is preferred in very young children and the uncooperative. Bluetooth device objects should be considered as new aural FB.
4. In a study by Patel Neha R et. Al. it was concluded that the management of impacted esophageal foreign bodies with rigid esophagoscopy is an effective and safe procedure despite its challenges. The inadequacy of adult supervision has been largely reported and shows the importance of the implementation of education campaigns meant to properly estimate the overall risks and decrease FB ingestion. So, doctor's role is fundamental in educating adult dealing with children, not only from a preventive point of view but also in diminishing the impact that this kind of injuries has on public health.
5. In a study by Parajuli R. et al, it was concluded that FBs in the ear and nose were found more frequently in children, and the throat was the most common site of FBs in adults and elderly people. Most of the nasal and aural FBs can be easily removed in the ER or OPD. Parents/caretaker should not allow children to play with coins or other small objects to prevent the risk of FB ingestion or insertion.
6. In a study by Afiadigwe EE titled "Pattern of Foreign Body Presentation in an ENT Outpatient Clinic in South Eastern Nigeria" they were able to establish the prevalence as well as the pattern of presentation of Ear, Nose and throat FBs not requiring general anesthesia to remove in their locality. Prompt and appropriate referral is key as mismanagement could predispose patient to serious morbidity or even mortality.

MATERIALS AND METHODS

Observational study carried out at Jorhat Medical College and Hospital among patients in OPD, casualty, inpatient department.

Children with foreign bodies in the ear, nose are brought by their anxious parents or attendants either to ENT or emergency service of JMCH. Older patients were found to attend the hospital themselves. Name, age, sex were recorded. A careful history of foreign body lodgement was taken. Examination of the part concerned was made before and after removal of foreign body. The opposite ear/nasal cavity was inspected to remove any suspicion of a foreign body there and to inspect if those parts were healthy. Endoscopy was performed to diagnose FB in the nasal cavity that was not visualized with anterior rhinoscopy. Examination under microscope was an additional method for diagnosis as well as removal of foreign body ear. Instruments such as foreign body hook, crocodile forceps, Jobson Horne probe were used in foreign body removal from nose and ear. Syringing and suctioning were other methods.

Plain X ray was done in cases of foreign body ingestion. This was followed by foreign body removal with indirect laryngoscopy/ rigid esophagoscopy.

RESULTS

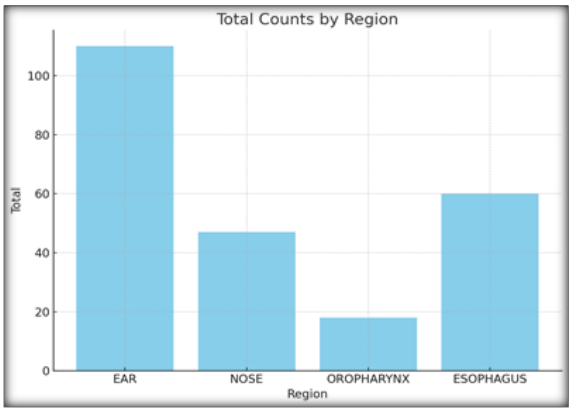


Figure 1: Frequency of foreign bodies by site

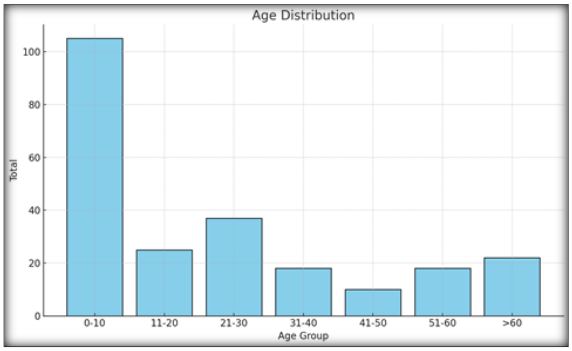


Figure 2: Age wise distribution of frequency of foreign bodies

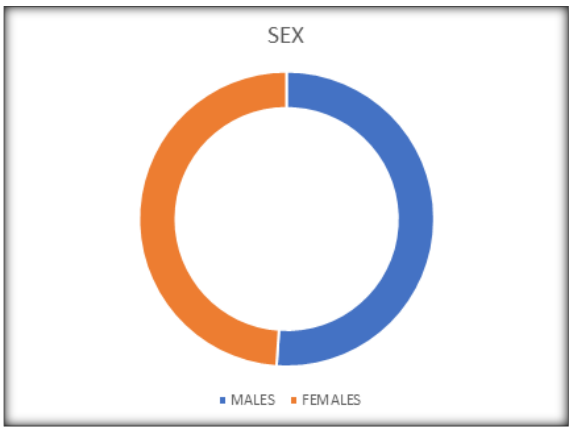


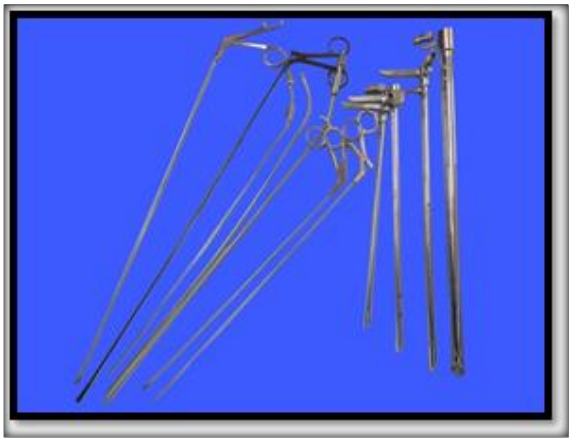
Figure 3: Sex distribution of patients presenting with foreign bodies

X-ray soft tissue neck showing open safety pin in esophagus

Button battery as nasal foreign body

Meat bone removed by rigid esophagoscopy

Patient with bamboo stick as nasal foreign body



Instrument used for foreign body removal

Results

As per our study involving the experience with foreign bodies in ENT in a tertiary care centre, we came across ear foreign bodies as the mostly frequently encountered ones (46.8%). Esophageal foreign bodies are the second most common foreign bodies (25.5%) followed by nasal foreign bodies (20%) and oropharyngeal foreign bodies (7.7%). 44.7% of the patients belong to the age group of <10 years followed by 37.5% patients in the less than 10 years age group, 15.7% belonged to 21-30 years of age and 10.6% in the 11-20 years age group followed by 9.4% in the above 60 years age group. It was seen that most patients with ear foreign bodies came in with otalgia while 27.2% were asymptomatic. Reduced hearing was seen in 12.7% of patients followed by otorrhea and tinnitus in 7.3% and 5.5% respectively.

Most cases of nasal foreign bodies were asymptomatic per se with only complaints of an apparent foreign body seen by caregivers as most of them happen to be children. Unilateral rhinorrhea was a common presenting complaint (21.3%) followed by cacosmia (10.6%) and epistaxis (8.5%). Almost all patients of oropharyngeal foreign bodies presented with foreign body sensation, a sensation of pins and needles at a localized site to be more specific, and some with odynophagia.

Most frequent among aural foreign bodies were insects followed by vegetative matter such as seeds. Plastic beads, stoppers were also encountered as well as metallic ear rings, hooks and cotton.

Seeds were found to be the most common nasal foreign bodies. Others included paper, metallic beads, pins, crayons, bindi etc. Fish bones were the predominant oropharyngeal foreign bodies and in cases of esophageal foreign bodies, most common were meat bones in adults and coin in children.

While majority of cases(63.8%) underwent foreign body removal under local or no anaesthesia, 36.2% cases had to go under general anaesthesia for the planned procedures to be executed smoothly.

While most of the procedures involving foreign body removal showed none to minimal complications, two of the notable complications we faced were TM

perforation (14.5%) due to impaction of the foreign body or late presentation. One case of esophageal perforation was seen in a case of meat bone in esophagus who presented to us a few days after the history of ingestion.

Table 1: Frequency of foreign body cases according to the age range and region affected

REGION	TOTAL
EAR	110
NOSE	47
OROPHARYNX	18
ESOPHAGUS	60

Table 2: Frequency of foreign body cases according to the age range

AGE	TOTAL
0-10 YEARS	105
11-20 YEARS	25
21-30 YEARS	37
31-40 YEARS	18
41-50 YEARS	10
51-60 YEARS	18
>60 YEARS	22

Table 3: Symptoms related to presence of foreign body according to region affected

EAR	SYMPTOMS	FREQUENCY
	ASYMPTOMATIC	30
	HYPERACUSIS	NIL
	EARACHE	52
	REDUCED HEARING	14
	OTORRHEA	8
	TINNITUS	6
TOTAL		110

NOSE	SYMPTOMS	FREQUENCY
	U/L RHINORRHEA	10
	CACOSMIA	5
	ASYMPTOMATIC	28
	EPISTAXIS	4
TOTAL		47

OROPHARYNX	SYMPTOMS	FREQUENCY
	FOREIGN BODY SENSATION	12
	DYSPHAGIA	6
	ASYMPTOMATIC	NIL
TOTAL		18

ESOPHAGUS	SYMPTOMS	FREQUENCY
	ODYNOPHAGIA	12
	DYSPHAGIA	28
	ASYMPTOMATIC	NIL
TOTAL		40

Table 4: Frequency of type of foreign body according to region affected

REGION	TYPE OF FB	FREQUENCY
EAR	COTTON	14
	INSECT	50
	SEEDS	12
	PLASTIC FRAGMENTS	18
	METAL STRUCTURES	10
	OTHERS	6
TOTAL		110

NOSE	TYPE OF FB	FREQUENCY
	SEEDS	17
	PAPER FRAGMENTS	12
	METAL STRUCTURE	10
	OTHERS	8
TOTAL		47

OROPHARYNX	TYPE OF FB	FREQUENCY
	FISH BONE	12
	GREEN STALK	04
	OTHERS	02
TOTAL		18

OESOPHAGUS	TYPE OF FOREIGN BODY	FREQUENCY
	MEAT BONE	18
	FISH BONE	04
	COIN	17
	OTHERS	01
TOTAL		40

Table 5: Complications associated with foreign bodies

COMPLICATION	FREQUENCY
TM PERFORATION	34
SEPTAL PERFORATION	NIL
ESOPHAGEAL PERFORATION	1

Table 6: type of Anaesthesia

TYPE OF ANAESTHESIA	FREQUENCY
GA	85
LA	77
NO ANAESTHESIA	73

DISCUSSION

FBs of the head neck region are very frequent in occurrence and ENT specialists have to deal with them on an regular basis.[1] It some instances it can lead to life threatening complications if not attended on time.[2] Parents and caretakers must keep an eye on the young children attentively and should remove any possible FB from the vicinity.

Our data agree with the literature,[3,4] concerning the location of the foreign bodies, with predominance in ears, followed by the nasal region and oropharynx. In this study, males formed the majority cases (n=120; 51%) and 115(49%) were females. Most research seem to suggest that boys are more exploratory and active than girls and are more likely to present with FBs. Umar et al,[5] however found that females were commonly affected (55.75%) than males (44.25%). In our study, the age of the patients presenting to our hospital ranged from 6 months to more than 60 years. Majority of the cases (44.7%) were in the under 10 year age group. Kwon et al,[6] in their study stated that maximum patients were in the early childhood group (52.2%). Umar et al,[7] found that the ages commonly involved were between 2-5 years (78.33%). Agrawal and Velankar,[8] observed that commonly affected ages were less than 10 years. Thus, a general prevalence of foreign bodies exists among the children owing to their inquisitiveness and constant need of relentless supervision.

In present study, most FBs were seen in ear (46.8%) followed by esophagus (25.5%) and then the nose and oropharynx. Adedeji et al,[9] found that foreign bodies of nose (20.9%) and ear (68.7%) were most prevalent. In present study, insect (n=50) was the most encountered aural foreign body followed by plastic and cotton fragments in attempt to clean and also seeds and other metallic objects like earring, safety pin. One of the most rare foreign bodies we encountered was an open safety pin lodged deep in the posterior wall of EAC which was eventually removed endoscopically under GA. Adedeji et al,[9] found that the most prevalent ear FBs were cotton buds and seeds, which can even cause inflammatory reactions. Seeds were the most common nasal foreign bodies. Umar et al,[5] found that small nuts & seeds (35%) were most common. Most common oropharyngeal foreign bodies were fish bones in our study as was the case in the report by Kwon et. Al.[6] In the current study, the most common FB was meat bone followed by coins and fishbone. Anuja et al.[10] stated that most FBs were organic (62.9%) with bones of mutton & chicken being most frequent (25.4%).

In this study, a few subjects showed complications such as otitis externa, tear of oesophageal mucosa, trauma to the EAC, tear of nasal mucosa, but notable ones were tympanic membrane perforation and a singular case of esophageal perforation. The frequency of complications was more in people who presented late or removal was attempted previously by inexperienced caregivers which can be well avoided with proper education regarding foreign bodies.

CONCLUSION

Foreign bodies in the ear, nose, and throat region are commonly encountered in ENT practice, particularly among the pediatric population. Our study highlights that the ear is the most frequent site of impaction, with insects being the predominant aural foreign bodies. Early presentation and appropriate intervention are crucial in minimizing complications. While most cases can be managed under local or no anesthesia, a significant number require general anesthesia, especially in uncooperative children or complex presentations. Timely diagnosis, skilled

removal, and caregiver awareness are essential to prevent morbidity and avoid life-threatening complications. Public education and prompt referral to specialized centers can significantly reduce adverse outcomes.

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