

Foreign Bodies in Ear, Nose and Throat – An Experience at A Tertiary Care Hospital

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Abstract

Background: Ear, nose and throat foreign bodies are among the most common emergencies presenting to Otorhinolaryngology casualty department. An early diagnosis and prompt management is required for prevention of complications. **Materials & Methods:** This retrospective study was conducted in the department of otorhinolaryngology, PKDIMS Palakkad from May 2018 to April 2020 in 161 patients who attended both Outpatient and Emergency department. **Results:** Of 161 patients recorded, 94(58%) were males and 67(42%) were females. The number of foreign bodies in ear was 74 (46%), in nose 37(23%) and 50 (31%) in the throat. 96(60%) were in pediatric age group. Among 161 cases 109(68%) were removed without anaesthesia and 52(32%) cases required general anaesthesia. **Conclusion:** Early recognition and timely management is needed for reducing the overall mortality and morbidity associated with ear, nose and throat foreign bodies.

Key words: clonidine, spinal-epidural (CSE) anaesthesia, haemodynamics

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Introduction

Foreign bodies in the ears, nose and throat are a common presentation in otorhinolaryngology emergency services. It can be introduced spontaneously or accidentally in both adults and children.[1,2] However, foreign bodies are common in younger children because of their curiosity to explore, playing, mental retardation, mental illness along with availability of objects and absence of caretakers. In adults it may be accidental or intentional. It may result in minor irritation to life threatening problem in airway foreign body. Success of foreign body removal depends on number of factors such as location of the foreign body, nature of foreign body, the physician's skills, availability of instrument and patient cooperation. To lessen the morbidity one should have a clear diagnosis before making attempts to remove the foreign body.[3] The objective of this study was to evaluate common sites, nature of foreign body, age, gender distribution and mode of management.

Materials & Methods

Our study was conducted in the department of otorhinolaryngology, PKDIMS Palakkad from May 2018 to April 2020. It comprises of 161 patients with foreign body in ear, nose and throat who had attended both Outpatient and Emergency department during this period. The data were obtained from the hospital record books. All the patients were evaluated with thorough history and a complete ENT examination. Otoscopy and anterior rhinoscopy were performed to diagnose foreign body of ear and nose respectively. Rigid nasal endoscopy was performed in suspected cases of foreign body in the nasal cavity that was not visualized with anterior rhinoscopy. Examination under microscope was performed in some foreign body ear cases for the diagnosis as well as for its removal. Syringing and suctioning were also done for ear foreign body removal.

Instruments such as Jobson Horne probe, Foreign body hook, Tilley's forceps and crocodile forceps were used in ear and nose foreign body removal. Plain X ray of neck was done in patients with a history of foreign body ingestion. CT scan was done wherever necessary. Videolaryngoscopy was done in cases where foreign body was not visible in X ray to rule out presence of foreign body and to determine its site of impaction. This was followed by removal of foreign body from oropharynx, laryngopharynx and esophagus with hypopharyngoscopy or rigid esophagoscopy respectively.

Result

In our study, 161 patients recorded, of which 94(58%) were males and 67(42%) were females with male to female ratio 1.40:1. Among them 96(60%) were in pediatric age group and 65 (40%) were adults. (Table 1)

The number of foreign body (Table 2 and Figure 1) in ear was 74 (46%), in nose 37(23%) and 50 (31%) in the throat.

Out of 74 ear foreign body 26(35%) were animate and 48(65%) were inanimate. Foreign body encountered in nose and throat were entirely of inanimate in nature. Among 161 cases (Picture 1) 109(68%) were removed without anaesthesia and 52(32%) cases were managed under general anaesthesia (Figure 2).

Foreign Body in Ear

Total of 74 patients were recorded with foreign bodies in ear of which 44(60%) cases were males and 30(40%) cases were females. Among them 21(28%) cases were adults and 53(72%) were under pediatric age group. The most common type of foreign body in the ear was insects 26(35%) in the form of housefly, bugs, ant, grasshopper followed by foreign body cotton piece 17 (23%). Hygroscopic foreign bodies were 9(12%) in the form of grain seed such as bean, gram, paddy and wheat. Other foreign bodies encountered in ear were paper-thermocool 13(18%), eraser-crayon-pencil-chalk piece 5(7%), bead 3 (4%) and plastic ball 1(1%). Common site of foreign body lodgment was found to be the external auditory canal. Most common clinical features in ear foreign body cases were pain 63(85%) followed by foreign body sensation(80%). The commonly employed methods of foreign body removal in ear were syringing and suctioning 61(82%)

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and 13 (18%) cases using Crocodile microforceps.73(99%) cases were managed in the OPD or emergency department without anaesthesia and 1(1%) case with plastic ball in a child was found impacted in the deeper part of external auditory canal and was removed under general anaesthesia through postaural approach.

Foreign Body in Nose

Total 37 patients were recorded with foreign bodies in Nose. Out of which 23(62%) cases were males and 14(38%) were females. All the cases were under pediatric age group. Most common type of foreign body in nose were of hygroscopic in nature in the form of grain seed 8(22%) followed by groundnut 7(19%). Other foreign bodies encountered were paper-thermocool 6 (16%), bead 4(11%), eraser-crayon-pencil-chalk piece 3(8%), plastic ball 3 (8%) cotton piece 2(5%), plum seed2 (5%), nut 1 (3%) and button battery 1(3%). All foreign bodies were inanimate in nature. Clinical features in nose foreign bodies were unilateral nasal discharge 27 (73%) and nasal obstruction21 (57%). Among them 23(62%) of the cases presented with history of foreign body insertion nose by their caretakers while in 14 (38%) cases neither the patients nor the caretakers were certain of foreign body insertion. Of this 9 cases were earlier treated as sinusitis due to complaints of nasal blockage and unilateral foul smelling nasal discharge which was later referred to our centre and found to be forgotten foreign body. In some cases imaging like x-rays were taken to rule out the foreign

bodies. Most commonly employed method of removal was using Jobson Horne probe 31 (84%). In emergency department and outpatient department 24(65%) cases were removed with or without local anaesthesia and 13 (35%) cases required general anaesthesia where the patients were uncooperative.

Foreign Body in Throat

A total of 50 patients were recorded with foreign bodies in throat. Out of which 27(54%) were males and 23 (46%) were females. 47(94%) cases were adults and 3 (6%) cases were under pediatric age group. Most common foreign body encountered in throat was fish bone 32 (64%) followed by chicken/mutton bone 14(28%). Other foreign bodies were denture 1(2%), dish wash scrubber piece 1(2%), safety pin 1(2%) and coin 1(2%). All the ingested foreign bodies were inanimate with 46(92%) being organic and 4(8%) being inorganic. Most common site of impaction was cricopharynx 26(52%) followed by oropharynx 13(26%) and hypopharynx 11(22%). Foreignbody sensation 44 (88%), odynophagia 41(82%) and dysphagia 37(74%) were the commonest presentation in throat foreign body cases. In some cases imaging like x-rays or CT scans were taken to confirm the diagnosis and to locate the site. Commonly employed method of removal was hypopharyngoscopy and rigid oesophagoscopy. 12(24%)cases were removed in the emergency department and out patient department without anaesthesia and 38(76%) cases required general anaesthesia.

Table I Age Distribution

Age group(years)	Ear	Nose	Throat	No: of Cases
0-10	31(41.9%)	33(89.2%)	3(6%)	67(41.6%)
11-20	22(29.7%)	4(10.8%)		26(16.1%)
21-30	5(6.8%)		19(38%)	24(14.9%)
31-40	7(9.5%)		9(18%)	16(9.9%)
41-50	2(2.7%)		4(8)	6(3.7%)
51-60	3(4.1%)		8(16%)	11(6.8%)
>60	4(5.4%)		7(14%)	11(6.8%)
TOTAL	74(46%)	37(23%)	50(31%)	161

Table 2 Type of Foreign Body

Foreign body	Ear	Nose	Throat	Total
ORGANIC				
Grain seed (bean,gram,paddy wheat)	9(12%)	8(22%)		17(11%)
Ground nut		7(19%)		7(4%)
Insects (Housefly,bugs, Grasshopper,ant)	26(35%)			26(16%)
Fruit seed (plum)		2(5%)		2(1%)
Fishbone			32(64%)	32(20%)
Chicken/mutton bone			14(28%)	14(9%)
INORGANIC				
Bead	3(4%)	4(11%)		7(4%)
Cotton pledget	17(23%)	2(5%)		19(12%)
Eraser,crayon,pencil, Chalk piece	5(7%)	3(8%)		8(5%)
Paper,thermocool	13(18%)	6(16%)		19(12%)
Plastic ball	1(1%)	3(8%)		4(2%)
Denture			1(2%)	1(0.6%)
Dishwash scrubber piece			1(2%)	1(0.6%)
Safety pin			1(2%)	1(0.6%)
Button battery		1(3%)		1(0.6%)
Nut		1(3%)		1(0.6%)
Coin			1(2%)	1(0.6%)
TOTAL	74(46%)	37(23%)	50(31%)	161

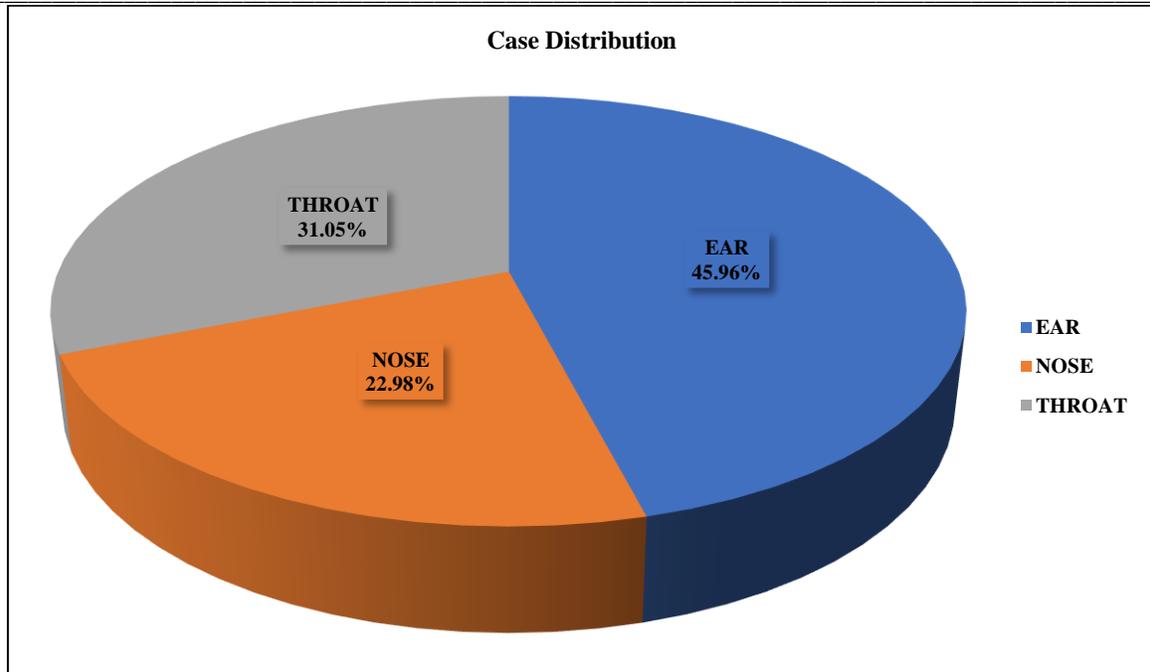


Figure 1: Case Distribution

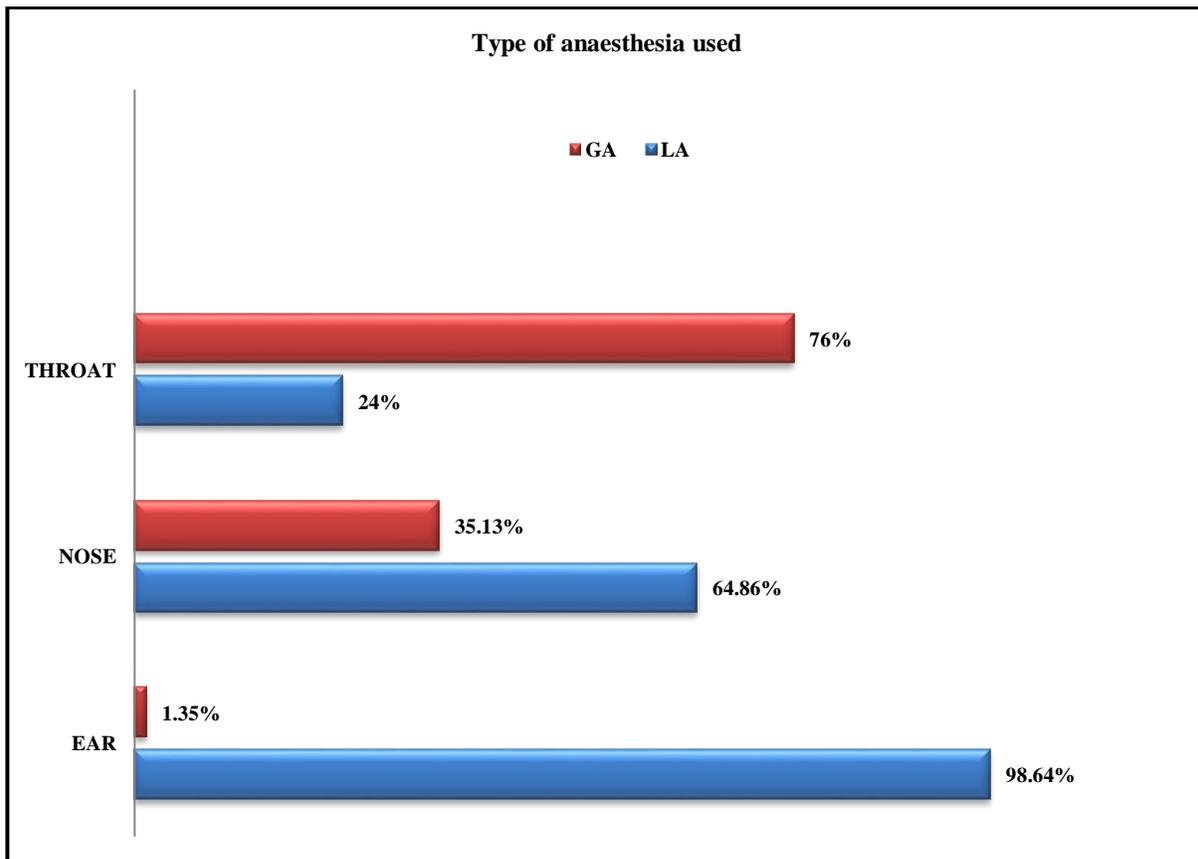
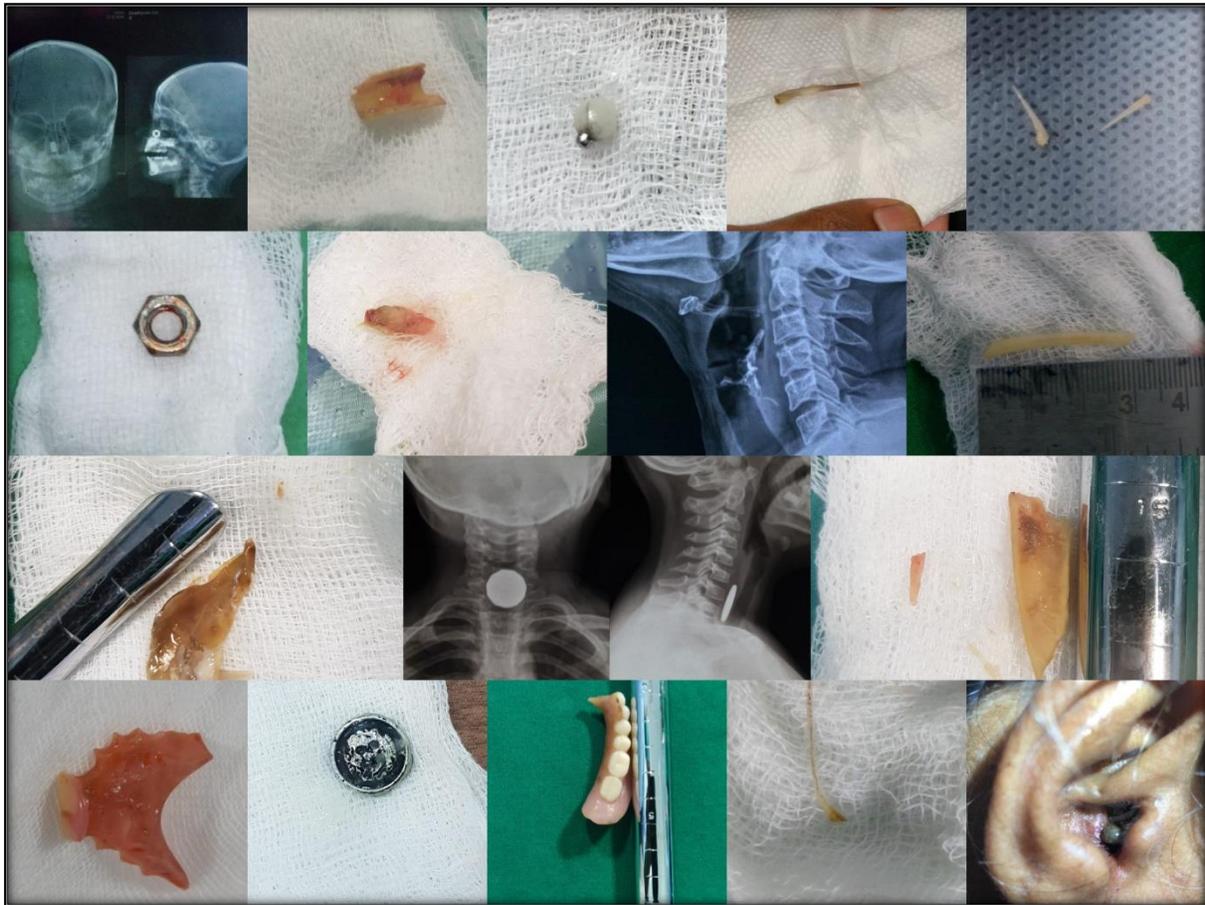


Figure 2: Type of Anaesthesia used



Picture 1: Different foreign bodies of ear, nose and throat

Discussion

In the present study, we have found that the incidence foreign bodies of ear, nose and throat are more common in children of less than 10 years of age (41.6%). Similar results of 0-10 age group preponderance were seen in the study of Ray et al[4], Shreshtha et al[5] and others 6,7,8,9. We found that 58 % (94) of patients were males and 42% (67) were females with male to female ratio 1.40:1, showed male preponderance. This agrees with previous studies.[5,10,11,12]

There was a clear difference in the age distribution of patients with ear or nose foreign bodies and those with foreign bodies in throat. Ear and nasal foreign bodies were predominantly seen in children. About 90% of the nose foreign bodies occurred in children under the age of 10, which was comparable to previous studies.[3]

Children are common victims due to their exploring habit and tendency to put things in ear, nose and mouth where as in adults, edentulous and poor masticating habits are predisposing factors. Parents and caregivers need to monitor their children closely and also remove potential FBs from the environment. They should also be encouraged to present their children early to hospital whenever they observe any unusual symptoms in them.

In this study we observed ear was the most common site of lodgement of foreign bodies 46% (74), followed by throat 31% (50) and nose 23%(37). Parajuli R[13] and Shrestha I et al also found in their study ear as the most common site for impaction of foreign bodies followed by throat and nose. Ear foreign bodies have the highest incidence in other studies done by Ahmad et al, Breno de Silva et al, Endican et al.[14-16]

In our study the most common type of foreign body in the ear was insects 26(35%) followed by cotton piece 17 (23%). Hygrosopic foreign bodies were 9(12%) in the form of grain or seed such as bean, gram, paddy and wheat. Most common type of foreign body in nose were of hygrosopic in nature in the form of grain seed 8(22%) followed by groundnut 7(19%). Mangussi-Gomes J et al[17] and Pecorari G et al[18] found similar findings in their studies. Most common foreign body encountered in throat was fish bone 32(64%) followed by chicken/mutton bone14(28%). Other foreign bodies were denture1(2%), dishwash scrubber piece 1(2%), safety pin1(2%) and coin 1(2%). A study by Barreto and Holinger in 2005 mentioned that, among the upper digestive tract FB cases, fish bone was the most common(70.5%) type.[19] The reason might be fish bone forms an integral part of diet in the population. Also multiple, small and sharp nature of fish bones compared to chicken bone and mutton bone makes them vulnerable for impaction in digestive tract.

The commonly employed methods of foreign body removal in ear were syringing and suctioning 61(82%) and 13 (18%) cases using Crocodile microforceps. Similar findings were seen in study conducted by Fritz et al.[20] 73(99%) cases were managed in the OPD or emergency department without anaesthesia. Requirement of general anaesthesia is 47.7% in our study which is comparable with other studies by João Mangussi-Gomes et al[17], Neizekhotuo Brian Shunyu et al[21] and Bast Fetal.[22] Most of throat foreign bodies (76%) were removed under general anaesthesia as they were retrieved with the help of rigid hypopharyngeal and esophageal endoscopes. Foreign bodies of throat which was removed under local

anaesthesia were mainly fish bones impacted mostly in tonsil and adjoining areas.

Conclusion

Foreign bodies in ears, noses and throats are common presentations to outpatient as well as emergency departments. Though they appear easy for removal, early recognition, prompt referral, appropriate instruments and skilled removal will help in reducing the complications and morbidities.

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