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Study Of Foreign bodies In Ear, Nose, Throat In A Tertiary Care Hospital

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Abstract
Introduction*: Ear, nose and throat foreign bodies are common occurrences and form a major part of emergencies that the ENT surgeon needs to attend.*
Objective*: To study the types of foreign body, their incidence in different age groups and management.*
Methods: *The study was performed in 523 patients who attended the outpatient department and casualityof Government ENT Hospital,Visakhapatnam.The study period was from May 2019 to March 2020.*
Results: *A total of 523 patients had foreign bodies in the ear, nose, or throat; 275 were males and 248 were females. Of the 523 patients, 237 (45.3%) hadforeign bodies in the ear, 174 (33.27%)hadforeign bodies in the nose, 103(19.69%)hadforeign bodiesin the throat, 5 (0.9%) hadforeign bodies in the oesophagus,and 4hadforeign bodies (0.7%) in the air way.The foreign body was removed under general anaesthesia in 52 (9.94%) patients. The most common age group affected was<5 years.*
Conclusion*: Foreign bodies in the ear and nose were found more frequently in children, Most of the foreign bodies are radiolucent and can be easily removed in emergency room or outpatient department.*
Keywords: *foreign body, ear, nose, throat,*

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I. Introduction

Foreign bodies in the ears, nose and throat (ENT) are a common occurrence in otorhinolaryngology emergency services. According to the literature, foreign bodies are responsible, on average,for 11% of cases seen in ENT services[1,2]. ENT foreign bodies though commoner in children, are actually seen in all age groups.The high prevalence in children can be attributable to their inquisitive nature and tendency to explore the environment.This is the major predisposing factor in them for foreign body insertion[3].Foreign body aspiration in adults is often accidental, and it is also encountered in some mentally deranged adults.

Foreign bodies may be classified as animate and inanimate.The inanimate foreign bodies can further be classified as organic or inorganic and hygroscopic or nonhygroscopic[4].The method for removal offoreign bodies will depend on the type, site, cooperation of the patient and skill of theENT surgeon[5].Foreign body removal is often carried out in an operating room, with the patient under sedation or general anesthesia.Delayed treatment has been correlated with larger and more severe lesions, in addition to more complications[6].The aim of this study is to analyze foreign bodies in terms of type, site, age, and gender distribution and method of removal.

II. Materials and Methods

A retrospective study was performed in the outpatient department and casuality of Government ENT Hospital,Visakhapatnam.The study group included 523 patients with a history of foreign body insertion, aspiration or ingestion during the one year study period from Ma 2019 to March 2020.The data was obtained from the patients case notes and theatre records. Patients with incomplete data or foreign bodies identified beyond the main bronchus and oesophagus were excluded.

Diagnosis was made by a thorough history taking, ear, nose and throat examination, which included otoscopy, anterior rhinoscopy as well as video nasolaryngoscopy depending on the sites of clinical suspicion of foreign body lodgements.All the foreign bodies were categorized into different groups based on the location of foreign body in ear, nose, aerodigestive tract groups. Radiological investigations such as X-ray of the neck with chestantero-posterior and lateral views were done for patients with suspected foreign body ingestions or

aspirations.Post-operative X-ray was taken in the cases to confirm removal and to assess the post-opeartive complications if any.

Ear and Nasal foreign bodies were removed using aural probes, Tilley's Nasal forceps, Hartmans' forceps, and crocodile forceps, depending on the type of foreign body and the progress was recorded. Ear syringing and suctioning as well as nasal suctioning were the additional methods of foreign bodyremoval documented.Every case of suspected foreign body aspiration or ingestion was subjected to rigid endoscopy under general anaesthesia. The size of the endoscope was chosen according to age of the patient.

III. Results

During the study period, 523 patients presented with ear, nose and throat foreign bodies.Among them 248 (47%) were females and 275 (53%) were males with children below 5 years constitute 168 (32.1%) patients.237 (45.3%)patients had foreign bodies in the ear, 174 (33.27%)patients had foreign bodies in nose,103 (19.69%)patients had foreign body in the throat,5 (0.9%) patients had foreign bodies in the oesophagus,and 4hadforeign bodies (0.7%) in the air way.

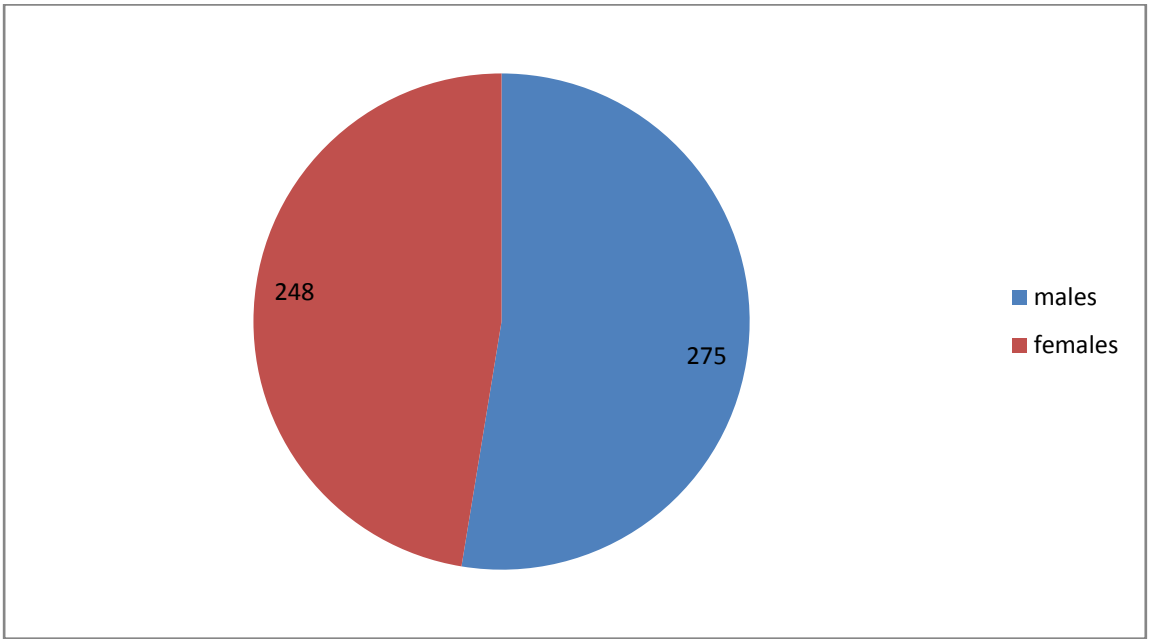

Figure 1: Pie chart showing sex incidence

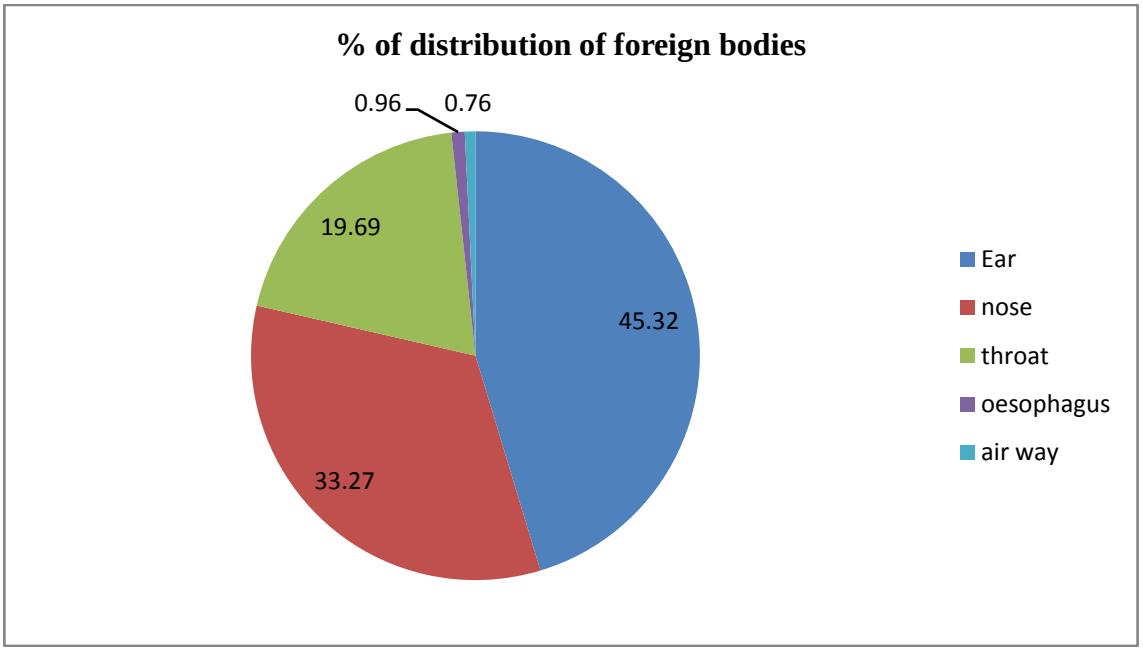

Figure 2 describes the location of foreign bodies in the group of patients included in the study.

They were mostly located in the ears (45.32%), followed by the nose **(33.27%),**throat (19.69%), oesophagus (0.96%), and the air way(0.76%).

Foreign Bodies in the Ear

A total of 237 patients presented to the hospital with foreign body in the ear. Of these 237 patients, 144were male patientsand 93were female patients.Almost all the age groups were equally affected except above 40 years age group which included 21 patients. Of the total 237 patients, 108 were children between 0-5 years of age, 70 were children between 6-12 years of age. And 38 patients were in 13-40 years age group**.**

Table 1: Age and sex distribution of foreign bodies in ear

Age group(years)	males	females	Total
0-5	68	40	108
6-12	40	30	70
13-40	20	18	38
>40	16	5	21
	144	93	237

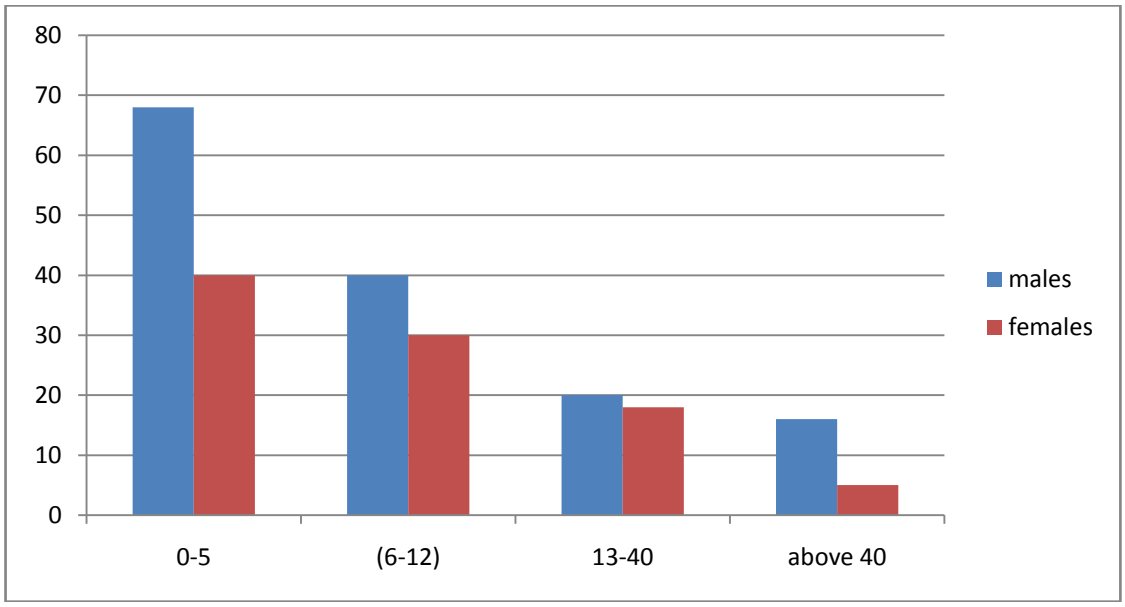

Figure 3: Distribution of foreign bodies in ear in males and females according to age group

Foreign Bodies in the Nose

174 patients had foreign body lodged in the nose. Out of 174 (33.27%) patients,15 were children between 0-5 years age, 35 were children between 6-12 years of age,86patients were between 13-40 years age, and 38 patients were above 40 years age.

Table 2: Age and sex distribution of foreign bodies in nose

Age (years)	males	females	Total
0-5	10	5	15
6-12	20	15	35
13-40	40	46	86
>40	20	18	38
	90	84	174

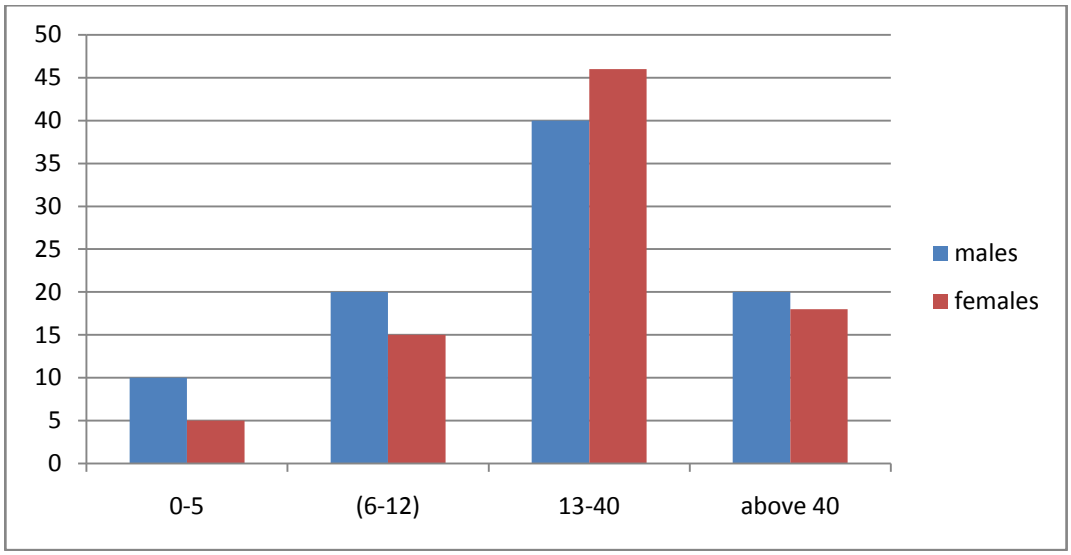

Figure 4: Distribution of foreign bodies in nose in males and females according to age group

Foreign Bodies in the throat

103 patients had foreign body lodged in thethroat. Out of 103(19.69%) patients,64were children between 0-5 years age, 25 were children between 6-12 years of age, 9 patients were between 13-40 years age, and 5 patients were above 40 years of age.

Table 3: Age and sex distribution of foreign bodies inthroat

Age (years)	Males	Females	Total
0-5	40	24	64
6-12	15	10	25
13-40	5	4	9
>40	2	3	5
	62	41	103

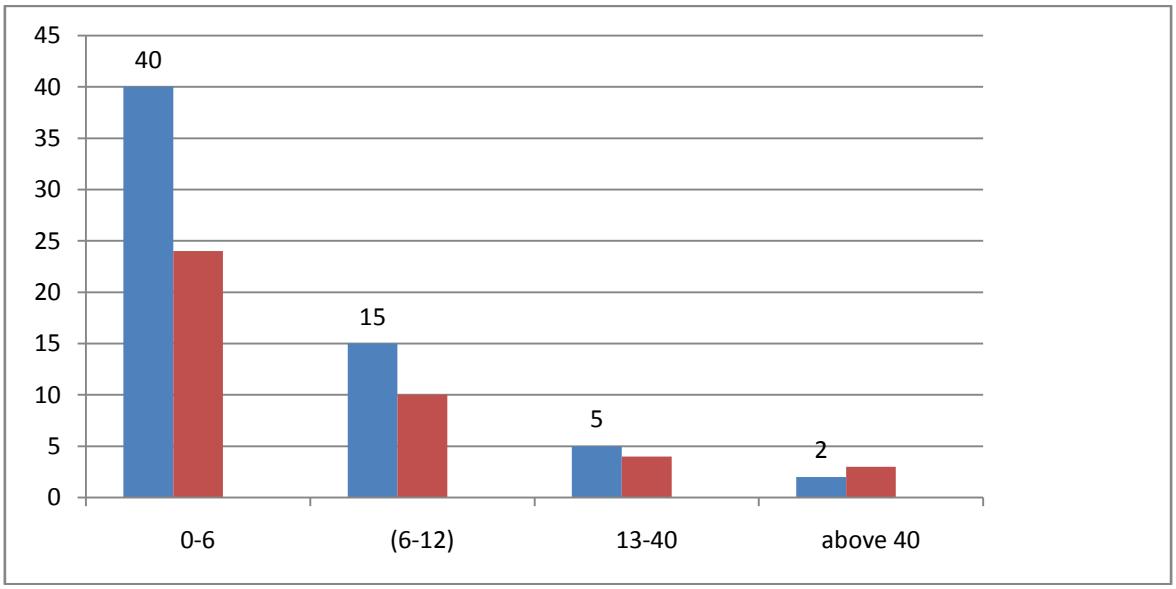

Figure 5: Distribution of foreign bodies in throat in males and females according to age group

Foreign bodies in oesophagus

Foreign bodies in the oesophagus were seen in male patients than in females. A total of 5 (0.96%) cases were recorded which belonged to age group below 12 years.

Table 4: Age and sex distribution of foreign bodiesin oesophagus

Age (years)	Males	Females	Total
0-5	1	1	2
6-12	2	1	3
13-40	0	0	0
>40	0	0	0
	3	2	5

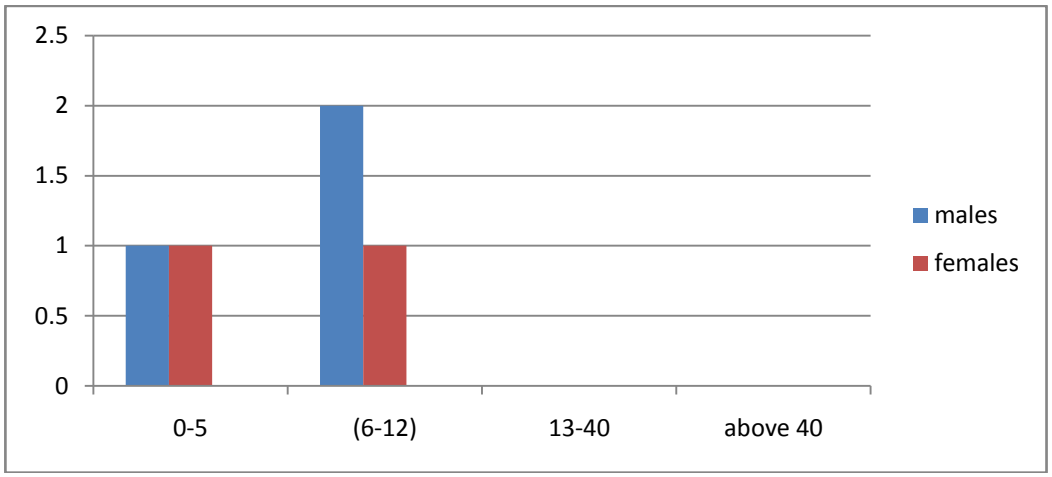

Figure 6: Distribution of foreign bodies inoesophagus inmales & females according to age group

Foreign bodies in airway: Foreign bodies in the airway group were mostly seen in male patients than in females.A total of 4 (0.76%) cases were recorded which belonged to age group below 12 years.

Table 5: Age and sex distribution of foreign bodies inairway

Age (years)	Males	Females	Total
0-5	2	0	2
6-12	1	1	2
13-40	0	0	0
>40	0	0	0
	3	1	4

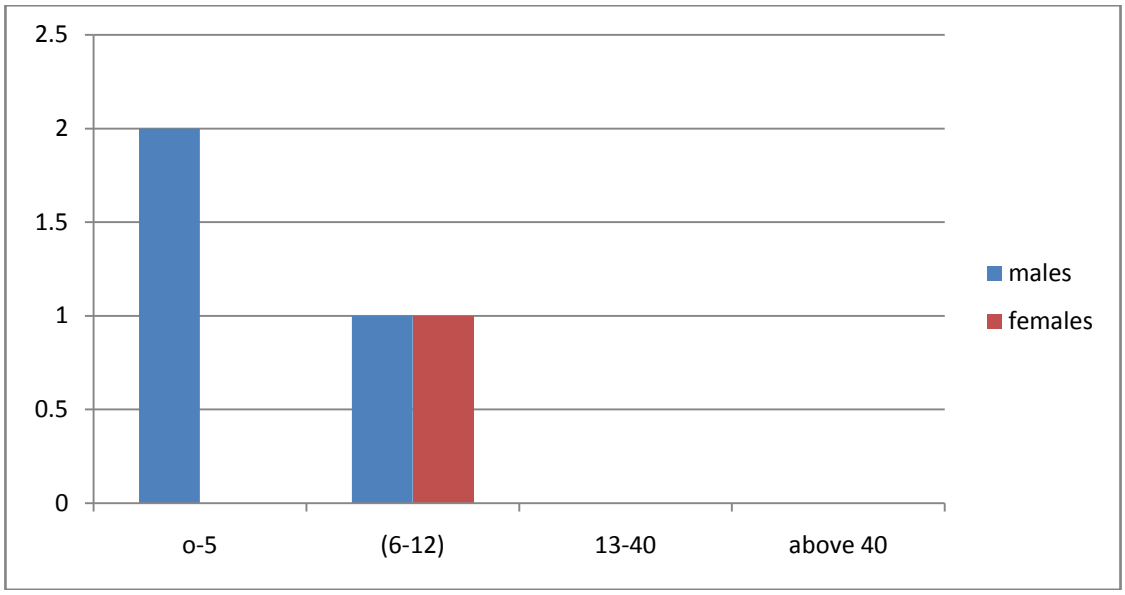

Figure 7: Distribution of foreign bodies in air way in males and females according to age group

The type of foreign body varied depending on the site of occurrence. Cotton buds were the most common type offoreign bodyfound in the ears. However, insects, peanuts,erasers were also frequently seen. In the oropharynx and larynx, fish and chicken bones topped the list. Complications are more frequent in patients with foreign bodies in their ears. Twenty patients (8.4%) had the following ear complications: 10 cases acute external otitis, 4 cases had laceration of the external auditory meatus, 5 cases had tympanic membrane perforation, and 1 case hadacute otitismedia. Thirty-six patients (4.4%) required general anesthesia or sedation to have the foreign body removed.

IV. Discussion

Foreign bodies are common cases seen in ENT practice. This study hasshown that a larger portion (32.1%) of the patients that presented with FB are children below 5 years, as also documented previously by other authors[7,8]. Children are most commonly affected age group,beinginquisite by nature usually tend to explore things and keep in their ear, nose or mouth and are often attracted to colourful objects, toys and even food stuffs[3]. Foreign body insertion in them could be an attempt to explore the ENT orifices.

In our study, foreign bodies in ear accounted for most (45.32%) of all the ENT foreign bodies, followed by the nasal and throat foreign bodies. This finding is similar to what is documented in Literature by Parajuli and Shrestha et al[9,10].Ear foreign bodies has been documented in literature to be more common than in other orifices but the reason for this is not known[7,8,9]. However, Sarkar et al reported foreign bodies to be more common in thethroat with 302 (62%) patients followed by ear with 119(25%) patients and nose 61 (13%) patients[11].

In our study, 275 foreign bodies were in males, remaining 248 were in females. Boys were more likely to insert, ingest or inhale foreign bodies than the girls.This finding is similar to Faruk M.D./Ozguner studies which has shown that foreign bodies are common in male children[12].In our study, organic foreign bodies constitute 213 cases(seeds, fish bone, chicken bone, ,mutton bone).Inorganic foreign bodies comprise 310 cases(coins, slate pencils etc.).In children the vegetable seeds, slate pencils,thermocol balls, erases and coins are important foreign bodies.In adults chicken bones,fish boneare important foreign bodies.

Cotton buds are the most common foreign bodies inserted into the ears followed by slate pencils, pea nuts and erasers.Ground nut seeds were noted among inhaled foreign bodies.Ozguner/Faruk study[12] has shown that food items are common inhaled foreign bodies and coins are common swallowed foreign bodies which is similar to the present study.

Ryuzaburo et.al[13]study has shown that fish bones and coins are common foreign bodies in pharyngo-oesophageal region and nuts are common in trachebronchial tree which matches with our study.In most of the patients, it has been noted that carelessness while eating food is the commonest cause for foreign body aspitation or ingestion.In children it is usually due to accidental aspiration when objects are kept into the mouth playfully.

V. Conclusion

Foreign bodies in ear are the most common of the ENT foreign bodies in our practice, with the commonest aetiology being cotton buds. Majority of foreign bodies occurred in children less than 5 years. Two-third of our patients did not present early and some presented with complications from initial attempts at removal in the hands of unskilled persons. There is a need for public enlightenments on the issue of preventing foreign body insertion and ingestion in the ENT region in children and adults, with emphasis on encouraging parents, and care givers to be very vigilant, to remove potential foreign bodies such as cotton buds beads, grains, themocol balls, erasers etc from the vicinity and reach of children.

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