

**FOREIGN BODIES IN THE EAR, NOSE AND THROAT: CLINICAL PROFILES FROM
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ABSTRACT

This study aims to describe the age, gender, types and site of foreign body lodgement, including modalities of foreign body (FB) presentation and management in the Department of Otorhinolaryngology- Head and Neck Surgery of a Tertiary Hospital in South Western Nigeria over a five year period (January 2010 to December 2014) using data from Hospital records. 180 patients had ear, nose or throat FBs constituting 57.8% [104 patients (114FBs)], 14.4% (26 patients) and 27.8% (50 patients) respectively. Males were 88 (48.9%) and females were 92 (51.1%) and children below 10years constituted 64.4% (116 patients) of all cases. Majority of the FBs (183, 96.3%) were inanimate. About a third of patients presented within 24hours (34.4%), another third within a week (33.9%) while the last third presented at varied timing spanning over and above a year. Previous attempts at removal by unskilled personnel was seen in 24% (25cases) of aural FBs and 38.5% (10 cases) of Nasal FBs respectively while no attempt at removal was made for throat FBs. Thirteen (12.5%) and 4 (15.4%) of patients with aural and nasal FB respectively presented with complications following varied attempts at removal. Sixty-five FBs (34.2%) of the foreign bodies were removed without anaesthesia while 4.2% (8 FBs) and 61.6% (117 FBs) were removed under local and general anaesthesia respectively. Ear foreign bodies are the commonest of the ENT foreign bodies in our practice. Many of our patients still present first to unskilled personnel with its attendant complications. There is a need for public enlightenments on preventing foreign body insertion into the ENT region in children and adults.

KEYWORDS: Foreign bodies, Ear, Nose, Throat, Nigeria.**INTRODUCTION**

Foreign bodies (FBs) in the ear, nose, and throat (ENT) are objects or substances seen in these regions which are not normally found in such areas of the body. Such FBs constitute a very significant part of the otorhinolaryngological emergency consultations in tertiary health facilities.^[1] ENT foreign bodies though commoner in children, are actually seen in all age groups. The curiosity and exploratory nature of children is the major predisposing factor in them for foreign body insertion, the act may be witnessed, otherwise the diagnosis will require a high index of suspicion.^[2] It is also not uncommon to find adults with accidentally dislodged objects such as cotton bud tips into their ears, or dentures distally to the throat.

FBs can be classified as animate (living) or inanimate (non-living), organic (bean seeds, groundnut seeds, insects) or inorganic (eraser, beads, coins), and

hygroscopic or non hygroscopic, with hygroscopic FBs having a tendency to absorb water and swell.^[3]

FBs present with affectation of the normal functions of the involved site with mild to severe discomfort, pain, blockage and discharges. It can also present with troublesome symptoms and signs depending on the location and nature of the substance.

The method for removal of ENT FBs will depend on the type, site, cooperation of the patient and skill of the physician. This study was carried out to describe the age, gender, types and site of foreign body lodgement, as well as modalities of foreign body presentation, management and complications in our facility.

MATERIALS AND METHODS

A retrospective study carried out in the Department of Ear, Nose and Throat (ENT)-Head and Neck Surgery, Obafemi Awolowo University Teaching Hospital, South

Western Nigeria. The study population included all the patients who presented with ENT FBs to the hospital through the Children and the Adult Accident and Emergency Departments as well as the ENT outpatient clinics over a five year period (January 2010 to December 2014). The data were obtained from the hospital medical records, including patients' case notes and theatre records. Patients with incomplete data or foreign body in the larynx, tracheobronchial tree and thoracic 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 site of clinical suspicion of foreign body lodgement. Radiological investigations such as plain X-rays of the neck and chest were done for patients with suspected FB ingestions or aspirations.

Ear and Nasal foreign bodies were removed using Jobson Horne's probes, Tilley's Nasal forceps, Hartmans' forceps, and crocodile forceps, depending on the type of FB. Ear syringing and suctioning as well as nasal suctioning were the additional methods of FB removal documented. When patients co-operated, the foreign bodies were removed in the clinic, while for those who did not, removal under general anaesthesia was done. Foreign body ingestion cases had rigid pharyngoscopy or oesophagoscopy and FB removal depending on the locations.

RESULTS

During the study period, 180 patients presented with ear, nose and throat FBs, with ear foreign bodies constituting 57.8% (104 patients), the nasal FB constituting 14.4% (26 patients) and ingested FBs constituting 27.8% (50 patients). Overall, 92 (51.1%) were females and 88 (48.9%) were males with children below 10 years constituting 64.4% (116 patients). About one third (34.4%) of patients presented within 24hours, another one third (33.9%) within a week while the last one third presented at varied timing till over a year. Duration before presentation after noticing presence of foreign body is as shown in Figure 1. Sixty-five FBs (34.2%) of the foreign bodies were removed without anaesthesia while 4.2% (8 FBs) and 61.6% (117 FBs) were removed under local and general anaesthesia respectively. The type of anaesthesia based on the site of FB is as shown in Figure 2.

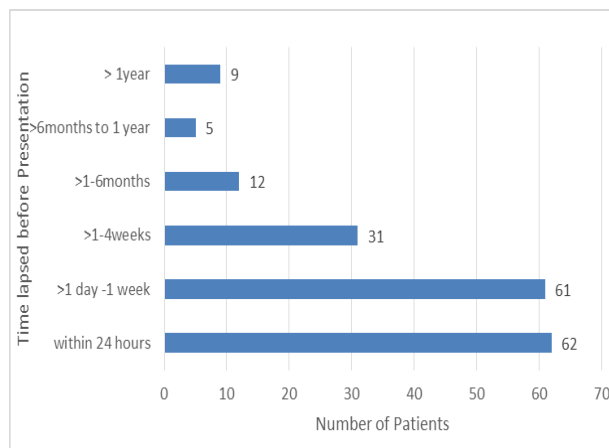


Figure 1: Showing the Duration of Foreign Body Impaction before Hospital Presentation.

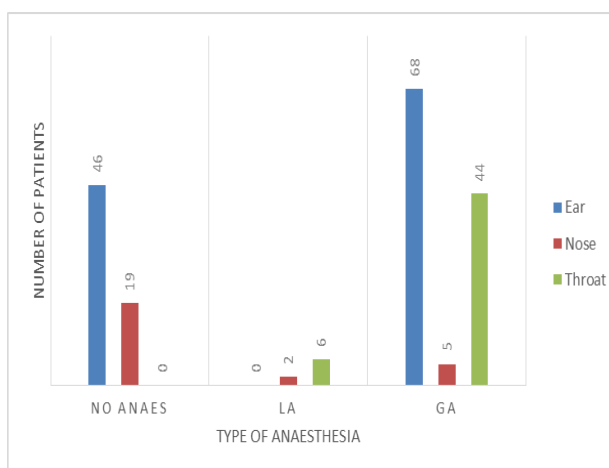


Figure 2: Type of Anaesthesia Used During ENT Foreign Body Removal

Ear Foreign Bodies

Out of the 104 patients with FBs in the ears, 49 (47%) were males while 55 (53%) were females; M: F = 1:1.1. The age ranged from 1 to 60years with 62.5% being less than 10yrs. Foreign body in the right ear accounted for 65 cases (62.5%), while left ear were 29 cases (27.9%) and 10 cases (9.6%) were bilateral, making a total of 114 foreign bodies.

Beads were the most common foreign body documented (23; 22.0%) while the least common was a blade fragment which accounted for 1.0%. The types of foreign bodies found in the ears are highlighted in Table 1. Only 35 patients (33.7%) presented within 24 hours of noticing foreign body impaction in the ear. In twenty-five cases (24%), previous attempts at FB removal had been made before presentation at our facility. Thirteen cases (12.5%) presented with complications from previous attempt at removal (Table 2). Foreign bodies were removed under general anaesthesia in 68 cases (60.6%), others were removed without anaesthesia.

Table 1: Type of Foreign Bodies in the Ear

Type of foreign body	Laterality			Number of patients (%)
	Right	Left	Bilateral	
Battery	3	2	0	5 (5.0)
Cotton bud	8	3	3	14(13.0)
Ear ring	3	2	0	5(5.0)
Paper	3	3	2	8(7.0)
Insect	4	3	0	7(6.0)
Stone	5	3	1	9(8.0)
Seed	6	4	1	11(10.0)
Bead	18	4	1	23(22.0)
Blade fragment	0	1	0	1(1.0)
Pencil	2	1	0	3(3.0)
Biro stud	3	1	0	4(4.0)
Broom stick	0	2	0	2(2.0)
Foam	4	1	1	6(6.0)
Match stick	2	0	0	2(2.0)
Crayon	4	1	1	6(6.0)
Total	65	29	10	104(100.0)

Table 2: Complications at Presentation of Ear FBs.

Complications	Number of Patients (%)
Bloody otorrhea	4 (30.7%)
Acute suppurative otitis media	3 (23.1%)
Otitis externa	3 (23.1%)
Chronic suppurative otitis media	2 (15.4%)
Injury to the external auditory canal	1(7.7%)
Total	13 (100%)

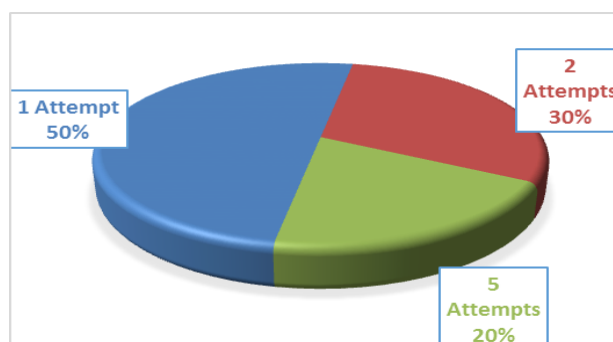
Table 3: Type of Foreign Bodies Found in the Nose.

Type of Foreign body	Nostrils		Number (%)
	Right	Left	
Seed	6	4	10(38.5%)
Foam	4	0	4(15.4%)
Crayon	1	0	1 (3.8%)
Bead	1	2	3(11.5%)
Stone	1	3	4(15.4%)
Paper	1	1	2 (7.7%)
Battery	1	1	2 (7.7%)
Total	15	11	26 (100%)

Nasal Foreign Bodies

Twenty-six patients had FBs in the Nose. Sixteen (61.5%) were males and 10(38.5%) were females with a male to female ratio of 1.6:1. All patients were < 10years with ages ranging between 1 and 7years and a mean age of 3.6years.

Seven cases (26.9%) presented in the first 24 hours of noticing foreign bodies or associated symptoms. The most common foreign body was seed, found in 10 cases (38.5%). 11 cases were on the left and 15 cases were on the right. Table 3 highlights the types of foreign bodies removed in the nostrils. Ten cases (38.5%) had previous attempts at removal before presentation. Attempts ranged from one to five times (fig.3). Five cases (19.2%) had complications at presentation (four cases of epistaxis as a result of attempts at removal and one sinusitis). The foreign bodies were removed without anaesthesia in 19 (73.1%) cases while five (19.2%) and two (7.7%) were removed under general and local anaesthesia respectively.

**Figure 3: Previous Attempts at Nasal Foreign Body Removal.**

Throat Foreign Bodies

Fifty patients had foreign body in the throat (pharynx and cervical oesophagus). Twenty-three (46%) were males and 27 (54%) were females with a male: female ratio of 1:1.2. Twenty five (50%) of patients were in the 0-10 year group (Fig.4). Twenty-three (46%) patients presented within 24 hours of ingestion of foreign body. There were no previous attempt at removing the foreign bodies and no complication prior to presentation in the hospital. Adults (6; 12%) that had fish bone impaction in their pharynx had their foreign bodies removed in the clinic under local anaesthesia, all others 44 (88%) had foreign body removal under anaesthesia.

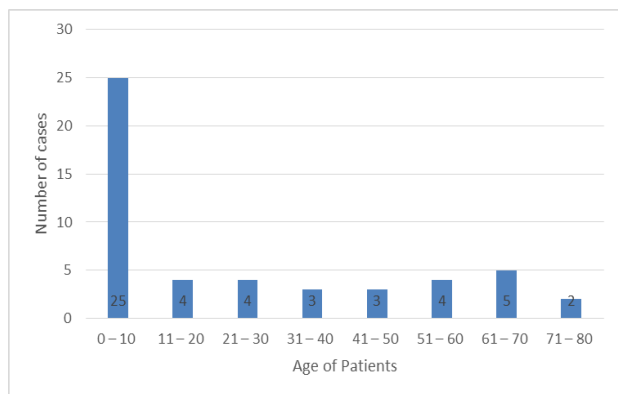


Figure 4: Age Distribution of Patients with Throat Foreign Bodies

Table 4: Nature of Foreign Body Ingested

Types of Foreign Bodies	Number of cases (%)
Fish bone	12 (24)
Meat	1 (2)
Disc battery	2 (4)
Needle	1(2)
Denture	9(18)
Coin	1(2)
Other metal	4(8)
Ear ring	3(6)
Toy parts	15(30)
Bottle cover	1(2)
bottle fragment	1(2)
Total	50(100%)

DISCUSSION

Otorhinolaryngology FBs are common cases seen in ENT practice. This study showed that a larger portion (64.4%) of the patients that presented with FB were children below 10 years, as also documented previously by other authors.^[4,5] Children are known to be curious, exploratory and inquisitive and often attracted to colourful objects, toys and even food stuffs.^[2] Foreign body insertion in them could be an attempt to explore the ENT orifices.

This study showed overall slight female preponderance among patients that presented with ENT FBs to our centre while nasal FBs were more common in males (M:F = 1.6:1), ear and throat FBs were slightly more common in females (M:F= 1:1.1; 1:1.2 respectively). In Uyo Nigeria, Ette reported more ENT foreign bodies in females than in males, however there are other studies where more males presented with ENT foreign bodies.^[4,5,6] In essence, ENT FBs can be seen in both sexes.

In our study, the ear foreign bodies accounted for most (57.8%) of all the ENT foreign bodies, followed by the throat and nasal foreign bodies. This finding is similar to what is documented in Literature by Parajuli and Shrestha et al.^[7,8] Ear foreign bodies has been documented in literature to be more common than in other orifices but the reason for this is not known.^[3,4,5,6]

However, Sarkar et al reported FBs to be more common in the throat with 302 (62%) patients followed by ear with 119 (25%) patients and nose 61 (13%) patients.^[9]

More of the ear and nasal FBs were located on the right in this series, this was similar to the findings by Gawarle et al, Adedeji et al and Oreh et al.^[2,6,10] Afolabi et al in their study found a significant correlation between the handedness of the patients and the side of lodgement of the FB in the ears, they reported that right handed patients were more likely to place FBs in the right ear, and vice versa.^[11] However Ette reported in their study that 58 of the foreign bodies were removed from the left ear while 19 were removed from the right ear.^[5] Bearing in mind the incidence of left handedness in Nigerian children as reported by Payne which is 4.5%, it is unlikely that all the 58 children with FB lodgement in the left ear were left handed.^[12] The point being that handedness may not solely account for laterality of foreign body lodgements. This study did not take into account the handedness of the patients. Laterality can also be affected by the fact that children not only insert objects in their own ears but also into the ears of their siblings and friends.

We found bilateral FB insertion into the ears to be 9.6%, Gawarle et al reported 2.9% while Oreh et al reported 6.5%.^[2,10] The higher value in this study points to a need for public enlightenment targeted on parents of children to be more vigilant in caring for their wards and to get rid of tiny objects from the view and reach of the children.

Beads were the most common FBs inserted into the ears followed by cotton buds and seeds/grains. These three things were also reported to be common by Oreh et al.^[10] In our environment colourful beads are commonly used to beautify children, their dresses, decorate their hairs, and many times worn as neck laces and on the ankles, this gives the child easy access to these objects. Cotton buds were seen more in older children and adults except while the mother is cleaning the child's ear or the child wants to imitate the care giver. This is similar to findings by Amutta et al who found cotton bud as the dominant FB in adults.^[13] Seeds/grains were found commonly in the nostrils followed by foam and stone. Amutta et al also reported plant seed and sponge (Foam) as the predominant FBs in the nose while Ibekwe et al found beads as the most predominant in the nostrils.^[13,14] Toy parts (children), fish bone and denture (adults) topped the list of FBs in the throat. Sarkar et al and Parajuli also reported bone (Fish/Meat) to be more common in the throat.^[7,9] Coin ingestion is now rare in our centre because coin currency is no longer in circulation in our country.

Health seeking behaviour of our patients and care givers for removal of ENT foreign bodies is poor. Only about one third (34.4%) of patients presented within 24 hours, another one third (33.9%) within a week while the last

one third presented at varied timing till over a year. When they do seek for removal, many present first to unskilled personnel and eventually present to us after varied number of attempts. In about a quarter (25cases) of ear FBs and 38.5% (10cases) of nasal FBs, initial attempts at removing the FBs had been made by unskilled persons, with resultant complications in 13 (12.5%) and 4 (15.4%) respectively. Complications ranged from injuries to the external auditory canals, tympanic membrane perforation, acute/chronic suppurative otitis media to epistaxis. Shrestha *et al* also reported that 80% of patients presented late (after 24 hours) to their centre and 67% had history of prior attempts at removal in Nepal while Oreh *et al* reported that majority (82.3%) presented after 24 hours of lodgement and 59.4% had previous attempts at removal.^[8,10] Shrestha *et al* also reported that the level of education of parents of the children and the duration at presentation was highly significant however, Despres *et al* reported that in spite of excellent education the insertion of foreign body in children, cannot be eliminated completely but there is a place for alerting the populace regarding the complications of foreign body in ENT and care.^[8,15] This was not considered in this study.

Most times after an initial attempt at home or by an unskilled personnel has been made, the child's apprehension is heightened and the tendency to cooperate for removal while conscious could be reduced and the chances of further injuries in the external auditory canal or tympanic membrane could be more. In the event that the patient remained uncooperative or there is an evidence that the foreign body is impacted, removal under general anaesthesia would be the next line. This could account for our study showing a high rate of foreign body removal under anaesthesia. It could also partly be because many of our patients are young and under 10 years and come with complications from previous attempts or have become unduly sensitized after an initial failed attempt necessitating general anaesthesia before removal.

CONCLUSION

Ear foreign bodies are the most common of the ENT foreign bodies in our practice, with the commonest aetiology being beads. Majority of foreign bodies occurred in children less than 10years. 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 enlightenment 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 beads, grains, toy parts from the vicinity and reach of children. Adults who have dentures should adhere to the instructions and care of their dentures.

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