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**Original article**

# Pattern of Foreign Body Presentation in an ENT Outpatient Clinic in South Eastern Nigeria

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## Abstract

***Background:*** Foreign bodies (FBs) in the ear, nose and throat are about the commonest emergencies encountered in otorhinolaryngological practice. Prompt and successful removal in the clinic obviates the need for general anaesthesia and reduces undue morbidity and mortality. ***Aim and Objectives:*** To profile all the cases of FBs that presented to our ENT outpatient clinic between the period of July 2011 and August 2021. ***Methodology:*** This was a retrospective study of the cases FBs that presented as outpatient at Eastern Specialist Surgical Clinics, Nnewi over a period of 10 years. All FBS requiring general anaesthesia or operating room procedures were excluded from this study. The data was analyzed using SPSS version 23. ***Results:*** Out of a total of 11,440 patients seen within the study period, 807 were managed for FBs, giving a prevalence of 7.1%. 51.4% of the patients were females, while 48.6% were males. Age of the participants was summarized using median (Interquartile range); 4 (3-13Years). Children aged between 1-5 years of age were the majority (59.1%), while the age categories least represented were those between 16-20years and 31-35years (2.6% each). Majority of the FBs were removed from the ears (69.8%), followed by the nose (28.4%). Others were tonsils (0.9%), Oropharynx (0.6%), palate (0.2%) and the tongue (0.1%). The various types of FBs removed in this study are as follows; Beads (18.1%), cotton buds (17%), insects (9.4%), pencil eraser (5.7%), foam (5.1%). All the FBs were successfully retrieved in the clinics with patient awake but under adequate restraints or cooperation in older individuals as the case may be. ***Conclusion:*** This study has shown the pattern of presentation of FBs at ENT outpatient clinics in our environment. With requisite expertise, equipment and adequate restraint or cooperation, most FBs could be removed without general anesthesia.

***Keywords:*** ***Foreign bodies, Ear, Nose, Throat, removal.***

## Introduction

Foreign bodies (FBs) in the ear, nose and throat are about the commonest encountered cases in the otorhinolaryngology emergency and outpatient departments. Man possess seven orifices in the body, out of which otorhinolaryngologist deals with five [1-3].

FBs can be introduced intentionally or accidentally in both adults and children; however, they are commoner with younger children who are naturally curious about the orifices in their body as well as the surroundings [1]. They are inclined to place articles such as toys, foodstuff, stone, paper, beads, cotton buds, matchstick and other household materials into any of these orifices. Sometimes the culprit could be a sibling or peer. Types of object vary according to patient's age [4]. Other predisposing factors includes mental disabilities, imitation of adults, availability of objects and lack of watchful caregivers [4-7].

FBs in ENT may sometimes appear easy and tempting to retrieve especially when it is visible and most times prior to presentation, there are usually several failed attempts by caregivers, patent medicine dealers or non-specialists at removal, thus pushing it further beyond with attendant complications [4]. Management of such FBs could atimes be challenging; successful removal of FB is largely dependent on having the requisite skills, appropriate equipment, adequate visibility and patient's cooperation or restraint [1,4,8-10]. ENT FBs when mismanaged has high potential for morbidity and mortality. Urgency of the situation is primarily dependent on the nature of the FB and its anatomical location. while most are seemingly innocuous, some could be life threatening [4,9,11,12].

This study was performed to analyze the cases of FBs presenting to our ENT outpatient clinic with respect to age, sex, anatomical location and side, nature of FB and duration at presentation.

## Patients and Methods

This was a retrospective study of all the cases of FBs that presented as outpatient at Eastern Specialist Surgical Clinics, Nnewi over a 10-year period (July 2011 to August 2021). Records were obtained from the patient's case and clinic register which included patient's age, sex, Anatomical location and laterality of the FBs, nature of FB and duration. We identified 807 cases in all. All FBs requiring general anaesthesia or operating room procedures were excluded from this study. Data was analyzed using SPSS version 23 software package, results were presented using tables and chats. P-value less than 0.05 was considered statistically significant.

## Results

A total number of 11,440 patients were seen at ENT outpatient department of Eastern Specialist Surgical Clinics, Nnewi during the period under review, out of which 807 were managed for FBs, giving a prevalence of 7.1. Fifty one percent (51.4%) of the patients were females, while 48.6% were males. Age of the participants as noted in table 1 below was not normally distributed and thus summarized

using median (Interquartile range); 4 (3-13Years). The age category most commonly seen in this study were children between 1-5 Years (59%), while those least represented were ages between 16-20years and 31-35years (2.6% each) as shown in table 1below.

**Table 1: Distribution of participants by age group and sex.**

| Age Category | | Frequency | Percentage (%) |
|---|---|---|---|
| | **1-5 years** | 477 | 59.11 |
| | **6-10 years** | 104 | 12.89 |
| | **11-15 years** | 42 | 5.20 |
| | **16-20 years** | 21 | 2.60 |
| | **21-25 years** | 31 | 3.84 |
| | **26-30 years** | 34 | 4.21 |
| | **31-35 years** | 21 | 2.60 |
| | **36 and above** | 77 | 9.54 |
| **Sex** | | | |
| | **Females** | 415 | 51.4 |
| | **Males** | 392 | 48.6 |
| | **Total** | **807** | **100** |

Majority of the FBs were removed from the ears (69.8%), followed by the nose (28.4%). Others were tonsils (0.9%), Oropharynx (0.6%), palate (0.2%) and the tongue (0.1%).

**Table 2: Location of the foreign bodies**

| | Frequency | Percent |
|---|---|---|
| **EAR** | 563 | 69.8 |
| **NOSE** | 229 | 28.4 |
| **PALATE** | 2 | .2 |
| **PHARYNX** | 5 | .6 |
| **TONGUE** | 1 | .1 |
| **TONSIL** | 7 | .9 |
| **Total** | 807 | 100.0 |

The table 3 below showed the distribution of FBs lodged in paired organs. Thirty nine percent of the FBs removed were lodged in the right ear, 27.3% in the left ear and 3.1% in both ears. Nasal FBs distributed as 16.4% in the right, 11.8% in the left and 0.2% in both right and left nostrils. All the FB removed from the tonsils were lodged in the right tonsil.

**Table 3: Location and side from which the FBs were removed.**

| | R | L | BOTH |
|---|---|---|---|
| **EAR** | 318 (39.4%) | 220 (27.3%) | 25 (3.1%) |
| **NOSE** | 132 (16.4%) | 95 (11.8%) | 2 (0.2%) |
| **TONSIL** | 0 | 7 (0.9%) | 0 |
| **TOTAL** | 450 (55.8%) | 323 (40%) | 27 (3.3%) |

The various types of FBs removed in this study are as follows; Beads (18.1%), cotton buds (17%), insects (9.4%), pencil eraser (5.7%), foam (5.1%). Paper, plastics and stones all made up of 5% each, wood/charcoal (2.5%), bones (1.7%). FBs categorized as others (1.1%) included leaves, pieces of soap, cloth and chalk.

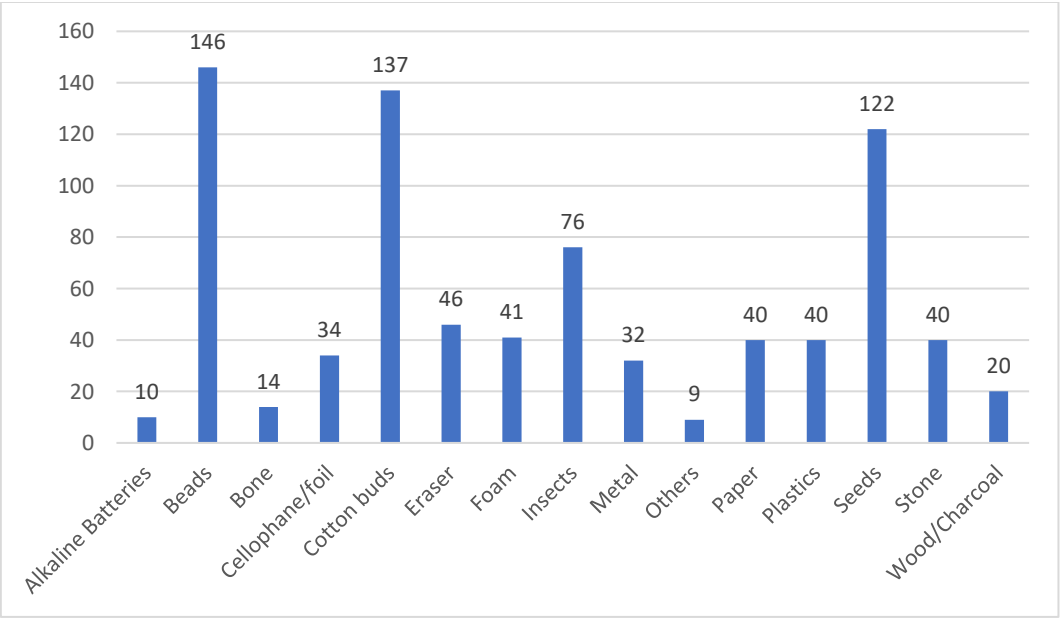


**Fig 1: Nature of FBs removed**

**Table 4:**

| | EAR | NOSE | PALATE | OROPHARYNX | TONGUE | Tonsil | Total |
|---|---|---|---|---|---|---|---|
| Less than 1 day | 70 | 50 | 0 | 2 | 0 | 1 | 123 |
| 1-7 days | 392 | 143 | 2 | 3 | 1 | 6 | 547 |
| 8-14 days | 40 | 17 | 0 | 0 | 0 | 0 | 57 |
| 2weeks-1month | 23 | 8 | 0 | 0 | 0 | 0 | 31 |
| 2-6 months | 22 | 6 | 0 | 0 | 0 | 0 | 28 |
| 7months-1 year | 7 | 1 | 0 | 0 | 0 | 0 | 8 |
| Above 1 year | 7 | 6 | 0 | 0 | 0 | 0 | 13 |
| TOTAL | 563 | 229 | 2 | 5 | 1 | 7 | 807 |

**Table 5: Types of FBs and various locations where they were removed from**

| | EAR | NOSE | PALATE | PHARYNX | TONGUE | TONSIL | TOTAL |
|---|---|---|---|---|---|---|---|
| **Batteries** | 4 | 6 | 0 | 0 | 0 | 0 | **10** |
| **Beads** | 101 | 45 | 0 | 0 | 0 | 0 | **146** |
| **Bone** | 2 | 0 | 1 | 3 | 1 | 7 | **14** |
| **Cellophane/foil** | 14 | 20 | 0 | 0 | 0 | 0 | **34** |
| **Cotton buds** | 135 | 2 | 0 | 0 | 0 | 0 | **137** |
| **Eraser** | 39 | 7 | 0 | 0 | 0 | 0 | **46** |
| **Foam** | 7 | 34 | 0 | 0 | 0 | 0 | **41** |
| **Insects** | 73 | 3 | 0 | 0 | 0 | 0 | **76** |
| **Metal** | 24 | 5 | 1 | 2 | 0 | 0 | **32** |
| **Others** | 4 | 5 | 0 | 0 | 0 | 0 | **9** |
| **Paper** | 26 | 14 | 0 | 0 | 0 | 0 | **40** |
| **Plastics** | 18 | 22 | 0 | 0 | 0 | 0 | **40** |
| **Seeds** | 71 | 51 | 0 | 0 | 0 | 0 | **121** |
| **Stone** | 27 | 13 | 0 | 0 | 0 | 0 | **40** |
| **Wood/Charcoal** | 18 | 2 | 0 | 0 | 0 | 0 | **20** |
| **Total** | **563** | **229** | **2** | **5** | **1** | **7** | **807** |

There was a significant association between the nature of FB and the duration of presentation ($p<0.05$), also the location of FB was shown to significantly influence the duration of presentation.

## Discussion

The present study considered patients who had FBs removed at the ENT clinic of a Specialist Hospital in South-eastern Nigeria. They were all done with patients awake under adequate restraints or patient's cooperation as the case may be. FBs represented 7.1% of all the cases that presented to our outpatient clinics. Awad et al in a similar study at Egypt, estimated a prevalence of 30% compared to all ENT emergencies managed in there facility over a period of two years [13]. If we included all the cases removed in the theatre, then our rate may actually be comparable.

Greater majority of the patients were aged between 1-5 years of age. Similar trend was observed in other local and international studies [3-5,11,13]. children within these age groups are naturally curious about the orifices in their body especially those in the head and neck region. They are thus more inclined to place objects in them.

Fifty one percent of the patients were females, while 48.6% were males giving a female to male ratio of 1.1:1. Few reports agree with our findings,[9,14] However many others reported a higher male to female ratio [4,11,15,16] Males are usually considered more adventurous than the females and therefore has more tendencies to insert FBs.

Aural FBs were most commonly seen in our study (69.8%), followed by nasal FBs (28.4%). Others were FB in the oropharynx (0.6%), FB in the tonsils (0.9%), FB in the tongue (0.1%). Adedeji et al made a similar finding to ours' in western Nigeria [11]. Shunyu et al and oyama et al in other international studies also reported a similar pattern of presentation [2,17]. Aksakal et al in Turkey however recorded more of nasal FBs (58.7%), followed by ear FB (20.2%), and the FB in pharynx (12.3%) [9]. For aural and nasal FBs, they were more commonly removed from the right side in 39.4% and 16.4% respectively. Both ears are involved in 3.1% and both nostrils in 0.2% of the population. This is in keeping with several previous studies, [2,3,9,16,18,19] which could be explained by the fact that a greater proportion of our population is right-handed, they are thus more prone to insert objects into the right side of the nose or ear as the case may be.

The most commonly observed FBs removed in this study were beads (18.1%), followed by cotton buds (17%) and seeds (15.1%). Others are pencil eraser (5.7%), foam (5.1%). Paper, plastics and stones all made up of 5% each, wood/charcoal (2.5%), bones (1.7%). FBs categorized as others (1.1%) includes leaves, pieces of soap, cloth and chalk etc. All these are readily available household items that are easily available to children and adults.

15.2% of our participants presented within 24hours from time the FB was inserted, 67.7% presented within 1-7 days, while 7% presented within 2weeks. Ogunlenye et al in western Nigeria also recorded a greater proportion of their participants presenting early [16]. Ear, nose and throat FBs no matter how asymptomatic or innocuous they may be could be most terrifying to caregivers who must have had failed attempts to remove it prior to presentation. This usually preempts the early presentation to the Hospital.

## Conclusion

We have been 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 our locality. Prompt and appropriate referral is key as mismanagement could predispose patient to serious morbidity or even mortality.

## Ethics approval and consent to participate

Ethical clearance was obtained from the Chukwuemeka Odumegwu Ojukwu University Teaching Hospital Health Research and Ethics committee with approval number COOUTH/CMAC/ETH.c/Vol.1/FN;04/216 and this study was done in full compliance with the institutional guidelines.

## List of abbreviations

FB: Foreign Body
ENT: Ear, Nose, Throat

## Data Availability

Data would be made available on request.

## Conflicts of Interest

The Authors hereby declare that there is no conflict of interest.

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This research and publication was funded by the authors.

## Authors' contributions

AEE conceptualised, designed the study and wrote the paper.
UUS wrote the paper, involved in data collection, analysis and interpretation.
EPO, OJU, UND, NI were involved in data collection.

All the authors reviewed the final Manuscript.

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## References

[1] Awad AH, ElTaher M. ENT foreign bodies: An experience. Int Arch Otorhinolaryngol. 2018;22(2):146-151. doi:10.1055/s-0037-1603922
[2] Oyama LC. Foreign Bodies of the Ear, Nose and Throat. Emerg Med Clin North Am. 2019;37(1):121-130. doi:10.1016/j.emc.2018.09.009
[3] Mukherjee A, Haldar D, Dutta S, Dutta M, Saha J, Sinha R. Ear, nose and throat foreign bodies in children: A search for socio-demographic correlates. Int J Pediatr Otorhinolaryngol. 2011;75(4):510-512. doi:10.1016/j.ijporl.2011.01.006
[4] Olajide TG, Ologe FE, Arigbede OO. Management of Foreign Bodies in the Ear: A Retrospective Review of 123 Cases in Nigeria. Ear, Nose Throat J. Published online 2020:1-4. doi:10.1177/0145561320920510
[5] Mahajan R, V. P. A retrospective review of complicated foreign bodies of upper aerodigestive tract. Int J Otorhinolaryngol Head Neck Surg. 2019;5(3):734. doi:10.18203/issn.2454-5929.ijohns20191740
[6] Parajuli R. Foreign bodies in the ear, nose and throat: An experience in a tertiary care hospital in Central Nepal. Int Arch Otorhinolaryngol. 2015;19(2):121-123. doi:10.1055/s-0034-1397336
[7] Olajuyin O, Olatunya OS. Aural foreign body extraction in children: A double-edged sword. Pan Afr Med J. 2015;20:1-7. doi:10.11604/pamj.2015.20.186.5218
[8] Grigg S, Grigg C. Removal of ear, nose and throat foreign bodies: A review. Aust J Gen Pract. 2018;47(10):682-685. doi:10.31128/AJGP-02-18-4503
[9] Aksakal C. Management of foreign bodies in the ear, nose and throat in children: a review of 829 cases from Northern Anatolia. Otolaryngol Pol. 2020;74(6):35-40. doi:10.5604/01.3001.0014.1579
[10] Wang W, Schneider GT, Strohl A. The Utility of the Maxillary Heuwieser for Oropharyngeal Foreign Body Removal Under Nebulized Local Anesthesia: A Case Series. Ear, Nose Throat J. Published online 2020:4-6. doi:10.1177/0145561320906329
[11] Adedeji TO, Sogebi OA, Bande S. Clinical spectrum of ear, nose and throat foreign bodies in North Western Nigeria. Afr Health Sci. 2016;16(1):292-297. doi:16(1)
[12] Jotdar A, Dutta M, Kundu S. Nasopharynx- The Secret Vault for Lost Foreign Bodies of the Upper Aerodigestive Tract. Iran J Otorhinolaryngol. 2016;28(89):431-434. doi:10.22038/ijorl.2016.7774
[13] Awad AH, Eltaher M. ENT Foreign Bodies: An Experience. Int Arch Otorhinolaryngol. 2018;22:146-151. doi:10.1055/s-0037-1603922
[14] Samor V, Sarowa D, Nayak PD, Saini V, Kaur G, Rathi U. Rare foreign bodies of upper aerodigestive tract: a study of 30 cases. Int J Otorhinolaryngol Head Neck Surg. 2020;6(7):1307. doi:10.18203/issn.2454-5929.ijohns20202602
[15] Ibekwe MU, Mbalaso OC. Pattern of paediatric ear, nose and throat diseases in Port Harcourt, South-South, Nigeria. Niger Heal J. 2015;15(2):48-54-54.
[16] Ogunleye AOA, Sogebi ROA. Otic foreign bodies in children in Ibadan, Nigeria. Niger J Surg Res. 2005;7(3-4):305-308. doi:10.4314/njsr.v7i3.12303
[17] Shunyu NB, Akhtar H, Karim HMR, Lyngdoh NM, Yunus M, Jamil M. Ear, nose and throat foreign bodies removed under general anaesthesia: A retrospective study. J Clin Diagnostic Res. 2017;11(2):MC01-MC04. doi:10.7860/JCDR/2017/22078.9373
[18] Afolabi OA, Suleiman AO, Aremu SK, et al. An audit of paediatric nasal foreign bodies in Ilorin, Nigeria. SAJCH South African J Child Heal. 2009;3(2):64-67. doi:10.7196/SAJCH.164
[19] Guthrie D. Foreign bodies in the nose. J Laryngol Otol. 1926;41(7):454-457. doi:10.1017/S0022215100029108