



Pattern of Foreign Bodies in External Ear Canal

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ABSTRACT

Background

Presence of foreign bodies in the external ear canal is a common ENT clinical condition, especially in children. Parents are always anxious to see that removal is done immediately, however, presentation to the first health care giver determines the success of removal. If presentation is not in the hand of appropriate care giver, then complication that may arise can lead to severe morbidity.

Method

This is a five-year retrospective study of presence of foreign bodies in external ear canal in the Department of Ear, Nose and Throat of the University of Port Harcourt Teaching Hospital. Period of study from January, 2018 to December 2022. Case notes of all foreign bodies removed in the ENT clinic and those removed in ENT theatre were identified. Age, gender, type of foreign body, method of removal, anaesthetic application, complication were recorded and analysed.

Results

Within the period of five years (2018-2022), 260 foreign bodies in the external ear presented in the Otolaryngology Clinic of the University of Port Harcourt Teaching Hospital. Children were mostly affected. Male 155 and female 105 with m/f ratio of 1.5:1. Beads ranked highest on the list of foreign bodies, with highest presentation within age of 0-5 years.

Conclusion

Foreign body in the external ear canal is an ENT emergency. Early presentation to appropriate care giver is vital for good treatment result.

Keywords: Foreign body, Button battery, Forcep removal.

Method

All the notes of patients that had foreign body in the external ear canal were retrieved in the department of otolaryngology of the university of Port Harcourt Teaching Hospital. Both those that had removal from clinic and from the theatre were all recorded. Children and adults were included in the study, though children presented more than adults. The biodata, gender, types of foreign body, modality of removal and type of anaesthesia were recorded. Those that presented with difficult removal were treated under anaesthesia in theatre, especially involved were those patient who presented first to unskilled care giver and were later referred to our department.

Received 01 Mar., 2023; Revised 10 Mar., 2023; Accepted 12 Mar., 2023 © The author(s) 2023.

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I. Introduction

Foreign body in the external ear canal is a common otolaryngology emergency and occur most times in children. When present in children, it is usually the parents that are worried for the removal from the ear canal¹. Various type of foreign bodies are involved in this clinical condition as will be enumerated in this study. Recently, in the list is the presence of button batteries which powers most electronic toys available in toy shops

². This can release alkaline chemicals which cause necrosis of epithelial lining of the external ear canal, thereby causing severe complications and morbidity. Presentation to unskilled health care giver will further worsen the outcome of treatment. Various complications will result when this happens. Ranging from tympanic membrane perforation to further push of foreign body into the middle ear, resulting into otitis media ³. The aim of this study is to highlight the pattern of external ear foreign body and to determine the treatment outcome, as well as treatment modalities involved in removal.

Instrumentation and Methods of Removal

1. Method A

Applications of forceps

- TylixForcep
- Hartman Crocodile Forcep
- Jobsonhorn Probe

2. Method B

Syringing for non-vegetable, non-impacted foreign bodies- e.g stones, and beads.

3. Method C

Under Anaesthesia for impacted foreign bodies, and those pushed into middle ear.

II. Results

Table I showed the age groups and the number of patients treated. Highest number of patient presented in age group 1-10, while the least presented in age above 50 years. In the first visit, the study looked at the complications presented in the patient. This probably resulted from first care giver.

In table II, meatal trauma had highest number of presentation, followed by tympanic membrane perforation.

Table III showed various methods used in foreign body removal. Majority of these foreign bodies were removed by forcep and Jobson Horn Probe application.

Various items removed were listed in table IV.

Table V showed some associated symptoms in various patients.

Table I: Age Group and Number of Cases

Age Group (Years)	Number of Cases	Percentage (%)
1-10	120	46.2
11-20	52	20
31-40	34	13
41-50	17	6.5
>50	10	3.8
TOTAL = 260		

Table II: Complications Observed in First Visit

Complication Observed In First Visit	Number of cases	Percentage (%)
1. Meatal wall trauma	38	14.6
2. Tympanic membrane perforation	27	10.4
3. Foreign Body pushed into Middle Ear	3	1.2
4. Chronic Otitis Media	15	5.8

Table III: Methods used in Foreign Body Removal

Methods	Number of cases	Percentage (%)
Forcep Removal Jobson Horn Probe	197	75.7
Syringing	52	20
Under Anaesthesia	11	4.2
Magnet	Nil	0

Table IV: Types of Foreign Bodies Removed

Types of Foreign Bodies Removed
Cotton buds
Beads
Biro top cover
Beanseed
Corn seed
Button batteries
Stone
Eraser ends
Insect

Table V: Associated symptom in some cases that presented

Presentation	Number of cases	Percentage (%)
Insertion of foreign body	56	22
Otalgia	39	15
Otorrhoea	18	6.9
Bleeding from ear canal	11	4.2
Tinnitus	6	2.3
Blockage/Impaired hearing	7	2.7
Feeling of mass in the ear canal	2	0.7

III. DISCUSSION

Foreign bodies in the external ear canal is a common otolaryngology emergency, especially in children. In this study, about 120 (42.6%) patient presented within 1-10 age range⁴. Only 10 (3.8%) presented above 50 years.

The study observed that some patients who visited non specialist care giver before presenting to our centre, had some complications. This is due to initial attempt by their care giver to remove the foreign body⁵. These were stated on table II, ranging from injury to meatal wall to perforation of tympanic membrane. These could be prevented if the patient had presented first to the specialist centre like our centre.

Nature of foreign body determines the instrument to be used. Several techniques are available, depending on the foreign body to be removed⁶. 75.7%(197) were removed through available forceps, tylix, Hartman forceps etc. Jobson Horn Probe was also utilized in removing some of the foreign bodies.

Jensen J M, described technique for removing spherical foreign body in the ear canal^{6,7}. 4.2% (11) were removed using general anaesthesia. These are severely impacted foreign bodies and those pushed into the middle ear.

Syringing was used to remove those foreign bodies that are non-vegetable, like beads, stones. Such non impacted, round, non-vegetative foreign bodies can be handled through syringing⁸.

Various items have been removed from external ear, varying from cotton bud to button batteries, which is more dangerous, because the alkaline solution it releases causes liquefactive necrosis⁹. The presence of button batteries found in the aural external meatus were becoming frequent as those batteries are used to power toys used by children¹⁰.

In some patient, various symptoms are associated with foreign body under consideration. Table 5 show some symptom associated with foreign body. Otalgia, Otorrhoea and bleeding dominate the type of symptom^{11,12}.

IV. Conclusion

Foreign body in the external ear canal is an ENT emergency. Early presentation to appropriate care giver is vital for good treatment result. Parent must keep away available items that can be inserted into the ear.

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