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# Aural Foreign Bodies Encountered In a Tertiary Health Facility Bingham University Teaching Hospital JOS.

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***Abstract:*** ***Introduction-****Aural FB is anything but wax lodged in the EAC; it could be organic or inorganic, animate or inanimate. Common FBs are grains/seeds, cotton buds, beads, etc. Commonly introduced by children due to curiosity and adventurous exploration of body orifices. Removal by trained personnel and specialists is safe with minimal or no complications but attempts or removal by unqualified personnel can present severe complications.*
***Method-*** *A three year retrospective study to evaluate aural FB encountered in a tertiary institution; data of 234 patients with aural FBs were collected and analyzed.*
***Results-****234 patients were evaluated, 136 males and 96 females-thus having a M:F= 1.4:1. Most of the FB occurred in the age range of 0-10 years with grains/seeds as the commonest FB. Cotton buds were seen mostly in adults. Most of them were removed in clinic settings without complications.*
***Conclusion-*** *Removal of aural FBs by untrained or nonprofessionals can present with severe complications thus attempts at removal should be avoided; referral to the trained professionals is advised for a save outcome.*

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## I. Introduction.

Foreign body in the ear canal is anything but wax found lodged in the ear canal. It could be Organic or inorganic; animate or inanimate; hygroscopic or non-hygroscopic etc. The common foreign bodies usually encountered include the following:-Beads, seeds/grains, cotton buds ( Q-tips), stones, pieces of paper, pencil tips, rubber, eraser, metallic parts, chicken feather parts, cockroaches, flies, maggots (from eggs of flies on mucopurulent discharge which then hatch into maggots- ie from CSOM, otitis externa maligna). Foreign Bodies in the ear are known to be commonly found in the paediatric age group due to their curiosity in exploring orifices within their bodies [1,2,4,5,6,8,10,11,12]. Children usually insert FBs in their ears by themselves or by pair groups during plays. Foreign Bodies like cotton buds (Q-tips) are usually inserted by adults intentionally due to itching ears, dirty ears or to mop water trapped in the ear after a bath or as a habit. Live insects like cockroaches are usually found in the aural cavity of patients from low socioeconomic areas with poor sanitary conditions [1]. Aural Foreign Bodies can equally be found in the aural cavity of mentally ill patients. Other live insects like ticks and bugs have been found stocked in the skin of the aural cavity of some patients in other literatures [8].

In literature of recent, an uncommon foreign body the Bluetooth device that is being used for cheating in high school examination has been described [9]. This is likely to go viral with this technological age; however it has not been encountered in our environment.

Presentation depends on the nature of the foreign body, the size, shape; and whether or not there has been attempt(s) at removal and by whom. Attempt(s) at removal by non specialists at home or in the hospital changes the presentation to the specialist. Presentation usually can be with pains, decreased hearing, bleeding, discharge, inflammation etc.

Children mostly under the age of 10 years insert objects or materials that are close to them like grains/seeds, beads, pencil tips/erasers either intentionally or by pair groups due to curiosity or just to explore their orifices during plays [1, 2, 4,5,6,8,11,12]. Adults on the other hand insert things in their ears intentionally to alleviate some concerns e.g. itching ears, thus things like cotton buds are usually seen. In general, more males insert things in their aural cavity than females thus giving a male: female ratio range of 1.5-2.1:1 in most literature reviewed [1, 2, 3, 4, 5, 6, 7, 8 10, 11, 12, 13] and as in this study.

The treatment for aural foreign bodies is removal which has been handled quite wrongly in most occasions due to it being attempted by untrained personnel or non-specialists and delayed referral to the specialist thus resulting in to unwarranted complications. Some institutions have a well structured arrangement in terms of patients' management making sure patients are referred as at when due to the appropriate departments for correct management thus reducing untoward complications to the barest minimum. Most of the

aural foreign bodies are removed under direct vision in the clinic setting without anaesthesia with instruments like Jobson Horne's probe, alligator forceps, aural dressing forceps or syringing; only a few are done under general anaesthesia in very young children and uncooperative patients to avoid complications [1,2, 3, 6, 9, 12,14],. Live foreign bodies are however suffocated or killed with solutions like olive oil, lignocaine spray before suctioning out or removal as above [8]. Grains/seeds, beads, cotton buds, pieces of paper form the bulk of aural foreign bodies seen in this institution. Complications observed include abrasion, laceration, bleeding from the EAC, otitis externa and TM perforation in rare occasions with damage to the ossicles.

**Method.**

This is a three year retrospective study (January 2015-December 2017) in Bingham University Teaching Hospital Jos Nigeria. The aim is to evaluate the types of aural foreign bodies seen in the institution within the period and how they were handled. Only patients seen in the ENT unit and managed by the unit trained ENT Nurses/Otorhinolaryngologist were included in the study. Records of two hundred and thirty four patients in the ENT unit of the department of surgery of BHUTH with aural foreign bodies were evaluated and reported as below.

## II. Results

**Table 1:** Age and Sex distribution.

| Age(yrs) | Male | Female | Total % |
|---|---|---|---|
| 0-10 | 42 | 28 | 70(29.9%) |
| 11-20 | 26 | 18 | 44(18.8%) |
| 21-30 | 20 | 14 | 34(14.5%) |
| 31-40 | 20 | 18 | 38(16.3%) |
| 41-50 | 18 | 12 | 30(12.8%) |
| 50> | 12 | 6 | 18(7.7%) |
| **TOTAL** | 138 | 96 | 234(100%) |

Male: Female Ratio=1.4: 1.

**Table 2:** Mode of Presentatation.

| Presentation | % |
|---|---|
| Pains | 76(32.5%) |
| Discount | 52(22.2%) |
| Decreased Hearing | 42(18.0%) |
| Bleeding | 30(12.8%) |
| Discharge | 14(6.0%) |
| Itching | 20(8.5%) |
| **TOTAL** | 234(100%) |

**Table 3:** Types of FB Removed.

| Types of FB | No | % |
|---|---|---|
| Grains/Seeds | 84 | 35.9% |
| Beads | 70 | 29.9% |
| Cotton buds | 60 | 25.6% |
| Insects | 09 | 3.8% |
| Pieces of paper | 06 | 2.6% |
| Others(Eraser,Stone,Chicken Feathers,etc) | 05 | 2.2% |
| **TOTAL** | 234 | 100% |

**Table 4:** Complications Observed.

| Complication | No | % |
|---|---|---|
| No Complications | 191 | 81.6% |
| Abrasion | 22 | 9.4% |
| Laceration/Bleeding | 10 | 4.3% |
| Otitis externa | 8 | 3.4% |
| Tm perforation/Otitis media | 3 | 1.3% |
| **TOTAL** | 234 | 100% |

The results involve a total of two hundred and thirty four patients' records analyzed. Table 1 shows the age and sex distribution with the highest number of foreign bodies 70 (29.9%) occurring at the age range of 0-10 , followed by 44 (18.8%)age range 11-20,and the others as indicated in table 1.There are more males (138) than females (96) giving a Male : Female ratio of 1.4:1.Table 2 shows the mode of presentation by patients with pains as the most common 76 (32.5%) and discharge as the least 14 (6.o%), others are as shown on the table. Table 3 shows the types of foreign bodies removed from the patients with grains/seeds 84 (35.9%) being the commonest, followed by beads 70 (29.9%), then cotton buds 60 (25.6%) and the least being others with chicken

feathers common used intentionally for itchy ears. Table 4 gives the complications observed after removing the foreign bodies from the ears. There are no complications 191 (81.6%) in most of the patients handled in the ENT unit due to the prompt presentation and the trained personnel that handle the procedure. The complications recorded are as in table 4 with the least being TM perforation/Otitis media which were as a result of poor management before referral to the ENT unit of the institution. Generally, patients managed in the unit have minimal complications recorded as a result of its trained personnel.

## III. Discussion.

Aural Foreign bodies are usually encountered in the paediatric age group worldwide; this is the case in this study as most of the patients are 10 years and below 70 (29.9%) due to their curiosity and exploratory behavior at this age as found in other studies worldwide [1, 2, 3, 4, 5, 8, 9, 11, 12]. The study also showed a male preponderance with a total of males at 138 to the female at 96, thus giving a male: female ratio of 1. 4:1, this is within the range seen in literature [1, 2, 4, 7, 9, 11]. This could be due to the fact that the males are naturally more curious than their female counter part. Patients usually present in clinic as a result of pains in the peadiatric age group with cries and pulling the ear, while the elderly patients may complain of discomfort in the ear. Others may complain of reduced hearing if the foreign body occludes the whole canal. There could be bleeding if there has been attempt at removal or if the foreign body is irregular and rough; there could be discharge or itching if the foreign body has stayed for awhile in the canal or has caused injury to the drum with a perforation and otitis media. In table 3, Common things are commonly inserted in the ear by children, thus in our environment, grains/seeds are mostly found in the EAC 84 (35.9%) followed by beads 70 (29.9%), cotton buds 60 (25.6%) usually by adults intentionally as a result of itchy ears. Others like the chicken feather are in common use in our environment by adults for itchy ears as well. Table 4 gives the observed complications with majority of patients 191 (81,6%) having none either as a result of prompt presentation or the appropriate personnel that handled the procedure, this is similar to other results in literature and the least and most serious complication of TM perforation/ Otitis media usually results from attempted removal before presentation to the expert.

## IV. Conclusion.

Aural Foreign Bodies commonly occur in the peadiatric age group due to curiosity and the tendency at exploring natural body orifices; it also occurs in adults when used intentionally for cleaning, scratching or mopping the ear. Removal however can present complications if not handled properly and correctly by trained personnel and professionals. A new form of foreign body was noted in literature (Bluetooth device), it should be monitored as complications from it could be severe. Adequate monitoring of the young children, avoidance of repeated attempts at removal of the aural foreign body and prompt referral to the qualified specialist for removal will reduce complications.

**Competing interest: -**None.
**Authors contributions:-** NLT collected the data, analyzed the data, carried out literature search .prepared the manuscript and head of the management team; while AM and D were part of the management team and also collected the data.

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