

FREQUENCY OF COMPLICATIONS IN AURAL FOREIGN BODIES

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ABSTRACT

Objective: To determine the frequency of three complications in terms of bleeding, laceration of external auditory canal and perforation of tympanic membrane due to presence of foreign body in external auditory canal.

Material and Methods: This was a randomized study. One hundred and ninety six patients that presented during six months were included in our study by Consecutive Non-Probability Sampling. Otoloscopic examination of both ears was carried out and patients with incidental findings were also included. After removing the foreign body, laceration, ear bleed, and perforation of tympanic membrane and its type were documented.

Results: Twenty Five percent of patients developed bleeding, (13.8%) were having laceration while none of the patient presented with tympanic membrane perforation. Cotton bud was found to be the commonest foreign body (33.7%) with associated bleeding.

Conclusion: Cotton buds are not suitable for ear cleaning, it causes bleeding and lacerations.

Key Words: Laceration, Bleeding, Perforation.

INTRODUCTION

Common otorhinological emergencies are foreign bodies in larynx, nose, throat and ear. Eleven percent of the visits to otorhinolaryngologists are due to foreign bodies. Complications rates have been seen to be as high as twenty two percent. The majority of the patients have foreign bodies in the ear¹⁻².

Foreign bodies with in external ear present in both adults and children³. The problem is very common among children, more in school going children than the toddlers⁴⁻⁵. Complications of foreign body ear include bleeding (51.38%)², laceration and perforation of tympanic membrane (0.99%)². Studies have shown that the complication rate increases in the number of failed attempts to remove the foreign body. The first attempt is therefore critical⁶. Removal of these foreign bodies from ear is very commonly performed procedure. This may be simple outdoor procedure or occasionally this requires sedation or even general anaesthesia⁷ and removal under microscope, especially when the foreign body is deeply impacted, or the patient is a struggling child not allowing proper positioning.

MATERIAL AND METHODS

This was a hospital based, observational study where 196 patients were treated having foreign

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bodies in their ear from ENT opd and emergency of Holy Family Hospital, Rawalpindi from November 2009 to May 2010 through non probability consecutive sampling. After taking approval from the hospital ethics committee study was carried out. A pilot study to test the questionnaire was carried out. Informed consent was taken from the patient or the patient's guardian if the child was less than 18 years of age. A detailed history focusing on the age, sex, presenting complaint (patient's own complaint or attendant's statement in case of a child), and approximate duration in hours for which the foreign body has been in the ear was documented. Afterwards, otoscopic examination of both ears was carried out and patients with foreign bodies in their ear Patients of all ages and both genders found to have foreign bodies in their external ears were included in this study. Patients unaware of foreign bodies in the ear were also included. While patients having wax in ear, otitis externa, acute otitis media, otitis media with effusion. Active chronic suppurative otitis media were excluded.

An initial attempt of extraction was tried with head mirror and reflected light or under otomicroscope in case of an adult or child with a deep seated foreign body. When initial attempt failed then sedation or general anesthesia was given to the patient and extraction was attempted. After removing the foreign body, its type, laceration, ear bleed and perforation of tympanic membrane documented. All the data was analyzed using the Statistical Package for Social Sciences version 13.

RESULTS

Out of one hundred and ninety six patients, one hundred and thirty were below ten years of age. Mean age of presentation was 10.5 years \pm 9.1 SD. One hundred and thirty four patients were male (63.3%) and 72 (36.7%) were females. Symptoms of patients with foreign body ears is shown in Table 1. The types of foreign bodies are shown in Table 2.

Table 1: Symptoms of patients with foreign body ear

	Frequency with %age
History of self impaction	41 (20.9)
Otalgia	130 (66.3)
decreased hearing	16 (8.2)
incidental finding	9 (4.6)
Total	196 (100.0)

Table 2: Type of foreign body

	No. of patients with percentage
Cotton bud	66 (33.7)
Wooden stick	16 (8.2)
Seed	17 (8.7)
Plastic beed	36 (18.4)
Metallic beed	40 (20.4)
Insect	5 (2.6)
Disc battery	2 (1.0)
Eraser tips	3 (1.5)
Button	1 (.5)
Stone	8 (4.1)
Miscellaneous	2 (1.0)
Total	196 (100.0)

Complications i.e bleeding through canal was found in forty nine patients i.e (25%) and laceration of external auditory canal was found in twenty seven patients i.e (13.8%) while we did not come across any patient with perforation of tympanic membrane. No complication was found in one hundred and twenty patients i.e (61.2%).

DISCUSSION

Removing foreign bodies, especially from children's ears can be sometimes very difficult and challenging due to several factors including the cooperation level of the patient, type of foreign body,

available facilities for removal of foreign body and expertise of the treating doctor^{7,8}. The insertion of foreign body is more common among children. In our study one hundred and thirty patients were below the age of ten, which is 70.3% of the total cases. The mean age is 10.03 years. This age is less as compared to the study conducted by Thompson et al.⁹, in which the mean age was 16.8 years. The age range in our study was 5 to 60 years, while the age range in study by Thompson et al.⁹ was from 1 to 90 years.

The most common symptom with which patients presented was otalgia (66.3%) as a chief complaint. In our study forty one (20.9%) patients themselves complained of foreign body in the ear, which makes it the second most common single presenting symptom. Sixteen (8.2%) patients were complaining of decreased hearing. Nine (4.9%) patients had foreign bodies found incidentally, though they had presented with other ENT complaints.

In the study by Thompson et al.⁹, the most common presenting symptom was history of foreign body while 126 (78%) had only a history of a foreign body without any other symptom. This percentage differs from our study. While in our study the most common complaint was otalgia (66.3%) and the second most common was complaining themselves of foreign body in the ear (20.9%). Fasunla et al.⁷, in their study also noted symptoms similar to our study but their results differ from our study. History of a foreign body was present in 90.9% of their patients, while otalgia was the next most common symptom (71.1 %).

The duration of foreign bodies in ear before they presented to us was mostly within 1-2 hours. One hundred and one (51.5%) of our patients presented within 1-2 hours of lodgment of foreign bodies in their ears. Forty patients gave history of three hours and thirty five patients gave history of four hours while twenty gave history of five hours. The maximum duration of time for any patient in our study was 5 hours.

In light of conclusions given by two large retrospective studies by Schulze et al.¹⁰ and Thompson et al.⁹. One hundred and seventy eight patients underwent initial attempt of removal of foreign body, which was made under direct visualization at outdoor department or in the ward. They were all cooperative patients on their presentation, allowing proper examination of their ears. The initial attempt was successful in one hundred and sixty four of these one hundred seventy eight patients. The rest of fourteen unsuccessful cases went on to be managed under GA or reattempted.

Different types of foreign bodies, which were removed from our patients' external ears were shown. Cotton buds the most frequent foreign bodies (33.7%), followed by metallic beed (20.4%) and plastic beeds

(18.4%). All the stones were removed from ears of children. Insects and cotton buds were removed from adult ears. This finding of stones being the most common ear foreign body encountered in our study; is quite different from many national and international studies^{2,8,10}.

Ryan et al.⁸ in their study also found beads to be the most common pediatric ear foreign body (19% of all pediatric foreign bodies), while cotton tips were mostly removed from adults (35% of all adult foreign bodies). This finding in adults is not similar to what we observed in our adult patients. Stones were found only in 4% of children and 1% of adults in this study. It is important to mention here that none of our patients required syringing for removal of foreign bodies from their ears. Although it is considered by many to be very effective way of removal of ear foreign bodies, we consider that in presence of modern tools including suction, there remains a very little role of syringing; especially in a well equipped and proper tertiary care otolaryngology setup. Brown L et al.¹¹ conducted a study on procedural sedation in emergency department for removal of paediatric ear and nose foreign bodies. They claimed it to be a safe approach but the practice has not popularized.

CONCLUSION

Bleeding and laceration were associated with foreign bodies ear as found to be most common complications. We suggest that community should be educated through media and literature about the complications and should discourage self instrumentation among the children and adults.

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