

Simple isn't always Easy: An Otolologist's Experience with Ear Foreign Bodies

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Abstract

INTRODUCTION: The presenting complaint of a foreign body in the ear is quite common at an otolaryngologist's clinic or emergency room. It is mainly the paediatric population which presents with such history which is attributed to their tendency to play and explore their surroundings. None the less the challenge arises in correctly diagnosing the foreign body, and the site of the ear it has occupied and if or not its impacted, all of which needs detailed examination and investigations. Many a times cases are referred after multiple attempts of removal with secondary complications. We must always bear in mind that the ear is a sense organ and one cannot tamper with it. In this manner we present a series of assorted cases of ear foreign bodies that we have come across at our tertiary care centre and their management.

CASE SERIES: In the past 1 year we have had 62 cases of ear foreign bodies which have presented to us at our tertiary care centre, among which 40 cases were paediatric patients and the remaining were adults, 70% of the foreign bodies were inorganic which included beads, parts of toys, stones, jewellery etc and 30% were organic, including seeds and even insects, the presenting symptoms were otalgia, foreign body sensation in the ear, ear bleed, reduced hearing and with history of foreign body in the ear. Several cases were challenging but were managed at the emergency ward but Only one unique case required emergency surgery, for post auricular approach for retrieval which has brought to our attention what is usually regarded as a simple or common case.

CONCLUSION: The ear foreign bodies must be tackled with care and always preserving function must be kept in mind, the complications must be understood not only the medical fraternity but also the lay people who will encounter this first hand. It has been our prime motive to through light on this often-neglected condition.

Keywords: Foreign body ear; External Auditory Canal foreignbody; Post-Auricularapproach; Impacted foreign body; Paediatric foreign bodies.

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INTRODUCTION

Ear foreign bodies are described as any object other than wax and cerumen that is foreign to the ear. Ear foreign bodies are commonly encountered by an otolaryngologists at the emergency department.¹ Children owing to their curiosity and playfulness represent a majority among the patients with ear foreign bodies and the removal is dependent on the type of object, location, duration of impaction, and the clinical setting.² As most cases have foreign

bodies limited to the external auditory canal is quite easily accessible and most of the time it can be removed in emergency department by simple manoeuvre and do not require any anaesthesia. But in some cases, depending on the site of Foreign body and age of the patient it may require administration of general anaesthesia for its removal.³ Difficulty in removal especially by untrained or unqualified personnel or inappropriate instruments or multiple attempts of manipulation may result in trauma of EAC or still worse the impaction of the foreign body.¹ Multiple attempts at removal can lead to canal oedema and granulation and under such circumstances, removing these objects without injury to tympanic membrane and ossicular chain can be very challenging and it is advisable in such cases removal should be done under general anaesthesia in an operating theatre using a microscope.⁴

Here we present a series of cases with ear foreign bodies and the challenges faced, while we highlight a rare case of a paediatric patient with an impacted

foreign body and its management at our tertiary centre.

CASE SERIES

In the past 1 year we have had 62 cases of ear foreign bodies which have presented to us at our tertiary care centre, among which 40 cases were paediatric patients and the remaining were adults, 70% of the foreign bodies were inorganic which included beads, pearls, parts of toys, stones, jewellery etc (Figure 1) and 30% were organic, including seeds and even insects. The presenting symptoms were otalgia, foreign body sensation in the ear, ear bleed, reduced hearing and as well as history of foreign body in the ear. While analysing this series we must bear in mind that ours is a tertiary care centre and only the complicated cases tend to get referred whilst the others are managed at the peripheral centres, due to which we have a seemingly lesser case load of common cases such as foreign body ear, as is being discussed here in our study.

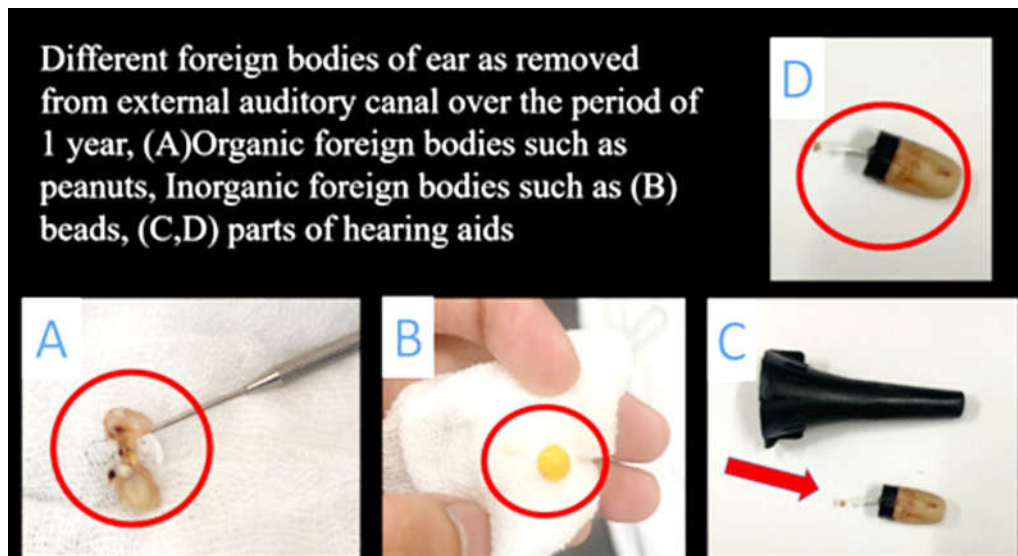


Fig. 1: The foreign bodies encountered.

All the cases were treated at the emergency department on outpatient basis and were removed by the use of cupped or alligator forceps or by aural toileting following which they were given antibiotics and antioedema measures.

6.45% of the cases had complications in the form of impaction of the foreign body, perforation of the tympanic membrane and EAC wall laceration and needed foreign body removal under vision through

otoendoscopy or by microscopy. The foreign bodies were successfully removed in toto and in cases with complication in the form of perforation of the tympanic membrane, and at follow up these perforations of the TM were managed based on the size. Most cases healed spontaneously or by chemical cautery, only one case needed myringoplasty which was done at a later date. (Figure 2)

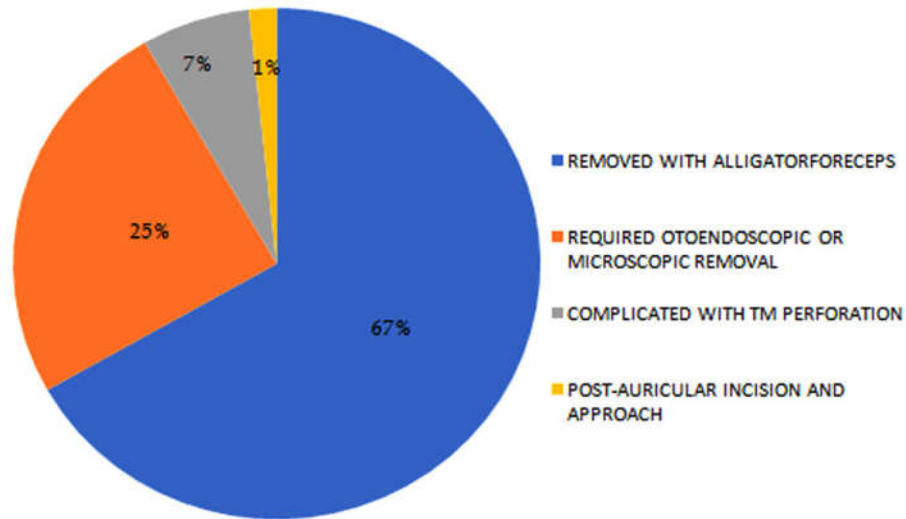


Fig. 2: Management of the Cases of Foreign Body Ear

We wish to highlight one single case in our series, i.e. 0.16% wherein we had to use surgical intervention to retrieve the foreign body as follows. A 4-year-old child presented to the emergency department of our tertiary care centre with the Alleged history of a stone in the left ear. Multiple attempts were made by the parents as well as a local doctor to remove the foreign body before coming to the hospital so at presentation there was profuse bleeding from the ear and oedema and excoriation of the external auditory canal which impaired proper visualisation of the foreign body. In spite of multiple attempts the difficulty to remove or dislodge the foreign body must have been due to the impaction of the foreign body at the level of the bony external auditory canal, which

was later confirmed by x-ray and intra op findings. X- ray mastoid was done to visualise the foreign body as well as to identify if it was a metallic or a non-metallic foreign body and once the bleeding was controlled attempt was made for removal of foreign body but it was found to be impacted owing to its size and the narrow oedematous EAC. Thus, the child was taken to operation theatre and under short General anaesthesia, the ear was examined, using a Lempert's speculum the EAC was visualised as shown in figure 3 and granulation tissue was seen around the foreign body an impacted stone. Using forceps and probe attempts were made to remove dislodge and remove the stone, but it was tightly impacted and removal was unsuccessful.

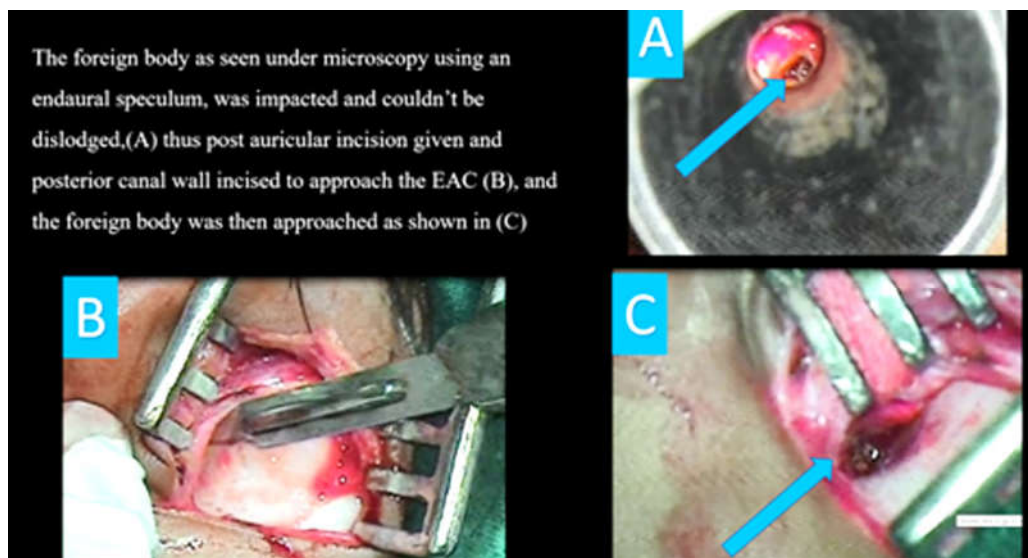


Fig. 3: Foreign body visualized using post aural approach under microscopy.

Then a Heerman's endaural incision was given in view of widening the EAC, and thus procuring more space to manipulate the stone, but still it couldn't be removed. As a final resort a post aurial incision was given and flap was secured and a small piece of the stone was chipped out using forceps which

in turn helped to mobilise the remnant and finally the stone was entirely removed as shown in figure 4 and figure 5. Tympanic membrane was visualised and found to be intact. Post aurial wound was closed and dressing was done. The post-operative period was uneventful.

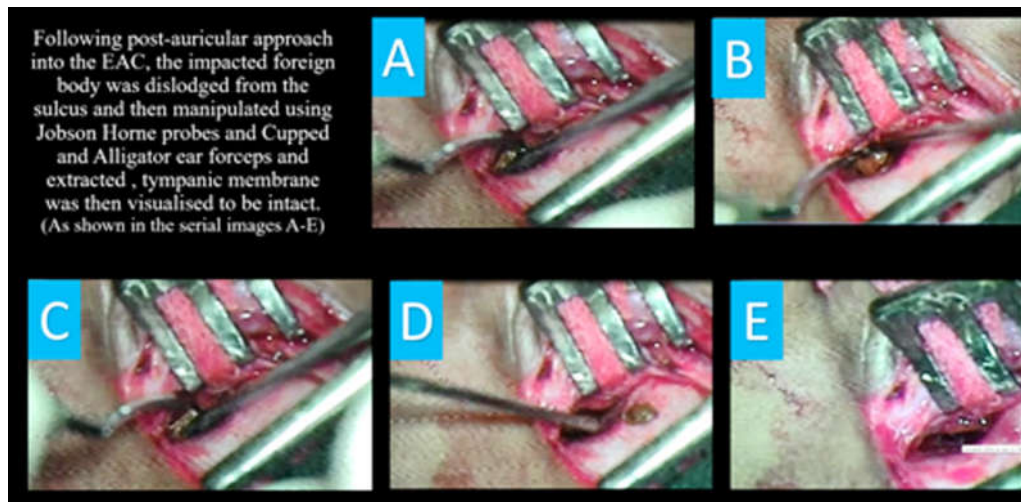


Fig. 4: Successful removal of the foreign body by post aurial approach.

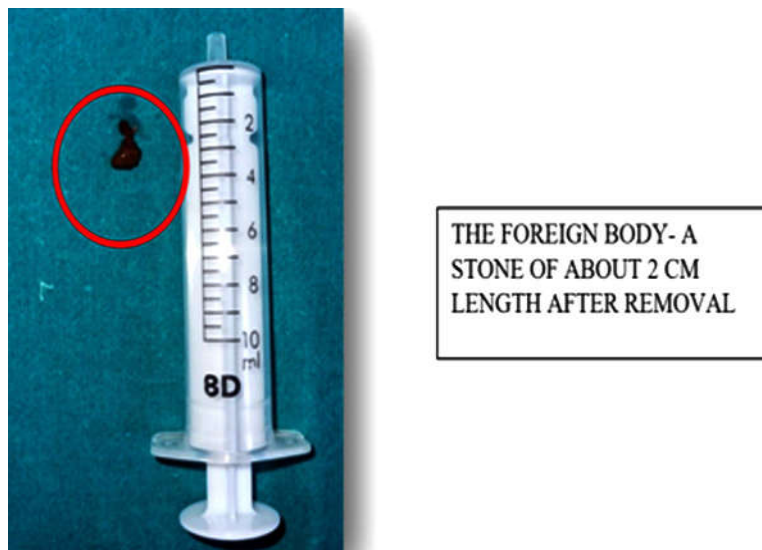


Fig. 5: The foreign body-stone, after removal measuring about 2 cm.

DISCUSSION

In this case series we've discussed the common ear foreign bodies in general and also about the management of impacted ear foreign bodies. Ear foreign bodies are common Otorhinolaryngological emergencies worldwide.⁵ They occur more in children between age group of 1 to 5 years (42.5%).⁶ Children are by nature inquisitive and

like to explore the various orifices in the body and hence land up with this presentation commonly in comparison to adults. Insertion of foreign body also depends on the availability of the foreign body and absence of caretakers.⁷ Foreign body removal should not be attempted many times and impacted foreign should be examined under microscope. Foreign bodies as common as they are paediatrics, among adults in the ear they present more in those

who are psychologically challenged or having an underlying psychiatric disorder due to which they aren't always aware of their surroundings or in control of their behaviour, making such cases further more challenging to manage as well as to prevent recurrence.¹⁰ The dimensions of the external auditory canal must be taken into consideration, especially in paediatric patients in whom the EAC diameter is still less than an adult, some studies show an average being about 7-10. 3mm, thus making the lodgement of foreign bodies more common, such as ours which was the same size as the maximum diameter of the EAC, due to which it was impacted.⁹ Complications of foreign body removal like bruised ear canal, total perforation of tympanic membrane, ossicular chain destruction can be avoided if untrained health personnel know their limits and refer the patient to otorhinolaryngologist.^{8,1} some foreign bodies require removal under General anaesthesia due to their shape, impacted and deep seated location, age of the patient, uncooperative patients or previous attempts of removal. Particularly if previous history of instrumentation was present. In rare cases like ours general anaesthesia was required for proper visualisation and to ensure atraumatic removal and further complication related to instrumentation.³ In our study we have discussed about an impacted ear foreign body (stone) in a paediatric age group, which was complicated due to the size of the stone in comparison to a paediatric EAC and its lodgement at the tympanic sulcus and due to multiple unsuccessful attempts of removal and injury to the ear canal, which warranted removal under short GA under microscopy, by a post-auricular approach.

CONCLUSION

Ear foreign bodies presenting to otorhinolaryngologists usually can be removed on OPD basis but at times this may become a herculean task due to impaction, bleeding, risk of TM perforation or infection which may need urgent surgical intervention. The main aim of foreign body removal is to prevent complications like injuring of tympanic membrane, injury to ear canal, such a case must be immediately recognized and intervened

to ensure safe and aseptic removal, more so in children keeping in mind future repercussions if not managed with due vigilance. Understanding the probable complications and the risks associated with ear foreign bodies is a message to be conveyed to not just the medical community but also the general population as they will be the one to encounter this situation first hand.

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