Case Report

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CHALLENGING FOREIGN BODY REMOVAL FROM MIDDLE EAR

ABSTRACT

Foreign body in external auditory canal is a very common presentation in otolaryngology emergency and outpatient department with most of the patients being children. Although an office-based procedure, severe pain or an uncooperative patient may warrant the need for general anaesthesia for removal. Whatever means is used, the outcome should be free from complications as far as possible, although it may not be possible in all the cases. We are presenting a case of 18 months young boy who had an impacted foreign body in his middle ear with prior history of failed attempt of removal in an outpatient setting. It had to be removed under general anaesthesia by drilling and widening the bony external auditory canal in order to mobilise, hold and remove it.

Keywords: Impacted foreign body, Middle ear, pediatric

INTRODUCTION

Foreign bodies in the external ear are frequently seen in Otolaryngology clinics.[1,2] They may be organic or inorganic like paper, cotton wool, rubber, seeds, beads, ball bearings, stones, and crayons insects etc. Children are more commonly found to be involved than adults.[3] A cooperative patient, adequate vision, appropriate equipment and a skilled doctor are the prerequisites for successful removal.[4] Iatrogenic injuries like bleeding, canal laceration, perforation of tympanic membrane and infection can occur during removal.[5] We are reporting a case of 18 month young boy who had an impacted foreign body in the middle ear with history of failed attempt of removal at a local health facility. which had to be removed under general anaesthesia by drilling the bony external auditory canal (EAC) in order to widen it for removal. We didn't find any literature reporting a similar case and management approach.

CASE REPORT

An 18-month young male child presented with his mother in the outpatient department (OPD) with complaints of foreign body in the right ear and no previous history of ear discharge. The mother noticed the foreign body in the right ear while bathing the child two days back. She couldn't tell what the foreign body was or the duration of its presence in the ear. She had gone to the nearby health facility where removal was tried and abandoned after the child developed severe ear pain and bleed. He was then referred to a specialist.

On examination, there was clot in the EAC and the foreign body could not be visualized. The child was very apprehensive and uncooperative. As further assessment was not possible in the OPD, examination and removal was planned under sedation. After sedating the child, the EAC was examined under microscope. Clot was suctioned. The EAC skin and mucosa was lacerated. The foreign body was visualized and it appeared like a bead. It was lodged in the middle ear with some remnant of perforated tympanic membrane also visible. Removal was tried permeatally with crocodile forceps, jobson-horne probe, micro elevator, straight needle and suction but it was tightly lodged and stuck in the hypotympanum with hardly any space in the middle ear to maneuver or hold it (Figure I). In order to avoid avulsion of ossicles and subsequent complications, further manipulation was abandoned. The EAC was too narrow to be drilled permeatally. Therefore, removal was planned by drilling the bony EAC via post-aural approach so as to create space to hold, manipulate and remove the foreign body.

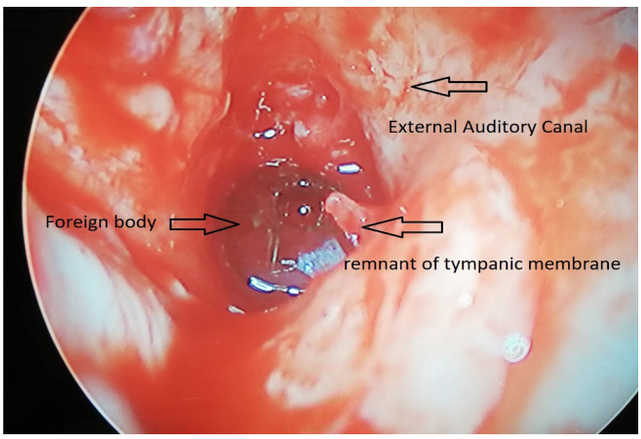

Figure 1. Foreign body as seen under microscope

After making a modified Wilde's incision, soft tissue and periosteum was elevated off the mastoid bone(FigureII). The EAC was visualised and the floor of the bony canal drilled with a 3mm cutting burr (Figure III). After enough space was created (Figure IV), the foreign body was dislodged from the hypotympanum and removed with a crocodile forceps. Ossicular status was not assessed and the perforated tympanic membrane was not repaired. The EAC was packed with a ribbon gauze, wound closed in multiple layers and mastoid dressing applied. Postoperatively, all the peripheral branches of the ipsilateral facial nerve were intact and there was no nystagmus or vertigo. The postoperative period was uneventful. The child was discharged on the 3rd postoperative day. The pack and sutures were removed on the 7th postoperative day. The child was called on follow-up after 2 weeks but didn't come for follow up. Subsequent attempts to contact them haven't been successful so far. The foreign body was a brown colored glass bead with irregular surface and a hole at centre (Figure V).

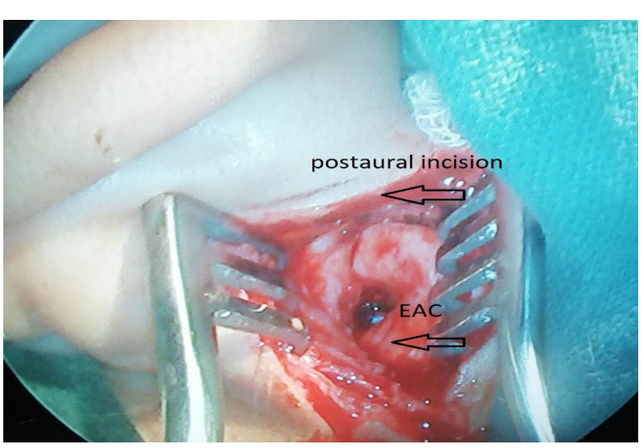

Figure 2. Foreign body as seen through post-aural incision

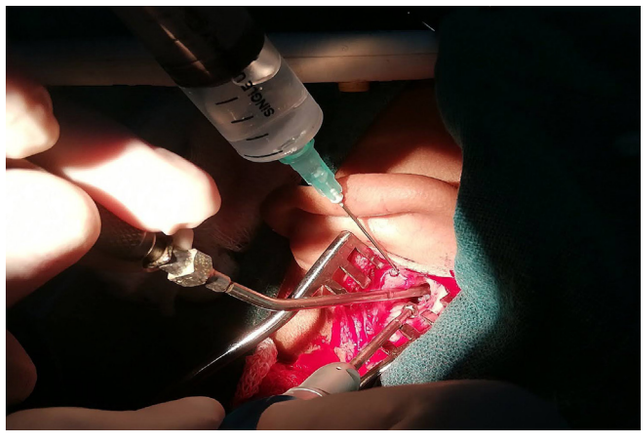

Figure 3. EAC being drilled

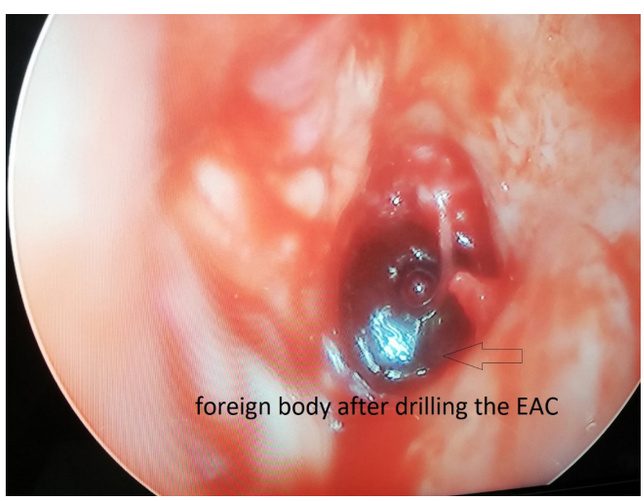

Figure 4. Foreign body after drilling the EAC

Figure 5 Foreign body after removal

DISCUSSION

Foreign body in external ear are regularly seen in emergency clinics.[6] Most of the foreign bodies are placed there voluntarily, usually by children.[7] This is because they are bored, curious or simply because the objects are at hand.[8,9] Removal of a

foreign body in the external auditory canal should be done by experts. Removal by people other than Otorlaryngologists is significantly associated with complications. Therefore, as far as possible all cases or complicated cases should be managed only by an otorhinolaryngologist.[5]

There is little scientific evidence regarding the best method of removing foreign bodies from the ear.[7] Each treatment method should be based on individual case.[9] The choice of procedure should take into consideration the exact location, shape, and composition of the foreign body. Most aural foreign bodies can be removed in the office. Uncooperative children and some adults require general anaesthesia (GA) for foreign body removal and assessment of the condition of the tympanic membrane using a microscope.[10, 11]

Shafi et al., in a review of 653 cases of foreign bodies of external auditory canal, found 97.5% of foreign bodies to be single. Complication rate on removal was 0.6% in the form of perforation of tympanic membrane. Seventy-seven percent of foreign bodies were removed under GA.[12] Fornazeri et al., in review of 462 cases of foreign bodies in ear, found that attempt at removal resulted in tympanic membrane perforation in 33 cases.[6] Davis et al. reported that topically applied local anaesthetic tends to have a partial effect at best and for this reason GA is to be preferred where the patient is uncooperative or removal of a foreign body proves difficult.[13] Singh et al. reported high complication rate for foreign body removal without GA. An unsuccessful attempt to remove a foreign body may cause further trauma and complications as well as significantly jeopardize the success of subsequent efforts and compromise a patient's cooperation as seen in our patient.

CONCLUSIONS

Foreign body in the external auditory canal, although being very common, can be a challenge sometimes. Uncooperative patient, failed attempt of removal needs general anaesthesia in order to prevent complications.

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