

Foreign Body in Middle Ear leading to Facial Palsy in a Child: A Case Report

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ABSTRACT

Introduction: Foreign bodies [FB] in ENT are common in children. In ear they are mostly found in external auditory canal (EAC) but are rare in middle ear. The FB which is tightly lodged in the EAC and those which are present in medial third of EAC near tympanic membrane should be referred to otolaryngologist as it requires magnification and special instruments to remove them.

Case report: We present a case of a 3 year old male child who inserted a flower seed in the left ear. There were multiple attempts of foreign body [FB] removal by an inexperienced doctor in a village causing tympanic membrane [TM] perforation and further pushing the FB into the middle ear leading to facial palsy. We planned the endoscopic FB removal under general anaesthesia [GA]. On exploration the FB was found it impacted in the middle ear impinging on the facial nerve with mucosal oedema, debris and blood clots present all around. HRCT was done showed normal facial nerve and ossicles.

Conclusion: The facial nerve functions recovered and TM perforation healed in 3 weeks post operatively. We report this case to create awareness as multiple forceful attempts to remove FB may lead to its lodgement deep in the canal and leads to complications.

Keywords: Vegetative Foreign Body, Endoscopic Removal, Tympanic Membrane Perforation

INTRODUCTION

Foreign body ear is one of the common medical emergencies encountered in paediatric emergency.¹ The review of literature indicates an incidence of 1 in 219 to 1 in 17921, with a 73% pediatric affliction rate.² They are mostly present in the external auditory canal and are rare in the middle ear. Among the objects found culpable are beads, buttons, plastic toys, pebbles, popcorn kernels, paper, eraser, and vegetable materials.³ The common complications of improper removal include trauma to the external auditory canal, bleeding infection and tympanic membrane injury.

We report a case of attempted removal of a vegetative foreign body leading to its migration in the middle ear causing tympanic membrane perforation and facial palsy.

CASE REPORT

A three year child is brought to the ENT OPD with complaints of putting a vegetative foreign body, a flower seed into his left ear while playing with his brother in the farm. The parents took the child to a local doctor, who tried twice to remove the foreign body but could not remove it. He abandoned the procedure because there was bleeding from the ear and the child was in severe pain. He prescribed him analgesics and antibiotics and referred the patient to our tertiary care centre. Next day when the patient came to ENT OPD of our medical college, a tertiary

care centre he had facial nerve palsy of left side [figure1]. On otoscopic examination, a black foreign body could be visualised deep in the middle ear with tympanic membrane perforation and blood clots all around [figure 2]. The external auditory canal was oedematous and lacerated, showing multiple attempts were made for foreign body removal. The child was very irritable; we planned for Endoscopic removal of foreign body removal under GA.

Under General anaesthesia, with zero degree adult 4mm endoscope the black foreign body was visualised in middle ear with a central perforation [figure 2]. Clotted blood and debris was present all around. After irrigating with saline and suctioning, the foreign body could be visualised stuck to the promontory. The FB was tried to be removed with 90 degree pick, though the FB could be moved but cannot brought in the EAC due to its hard nature also because of narrow middle ear. The FB was finally displaced inferiorly to get some space to the remove the foreign body using the triangular knife. The black round FB finally removed using minimal force. The middle ear mucosa was oedematous and mucoid discharge was present. The middle ear was irrigated with antibiotic mixed saline. The ossicles were palpated to be normal position using curved pick. Facial nerve could not be identified due to oedematous mucosa in the middle ear and the ossicles were palpated. Antibiotic and steroid soaked gelfoam was placed in the middle ear. The torn edges of the TM were replaced and supported with gelfoam. EAC was packed with gelfoam.

We started the patient on oral antibiotics, analgesics and steroids. As there was not much improvement of the facial nerve in 5th post op day, we planned to do a HRCT scan to know the damage to the facial nerve [figure 3]. It showed ossicles to be normal with dehiscence facial nerve. We did free field audiometry and BERA to check for the hearing of the patient to rule out sensorineural hearing loss. All investigations were found to be normal.

The facial palsy improved on 3 weeks operative day and the TM perforation healed by 6 weeks. The patient is doing well in 6 months follow up.

DISCUSSION

Foreign body in ear is one the commonest presentation in

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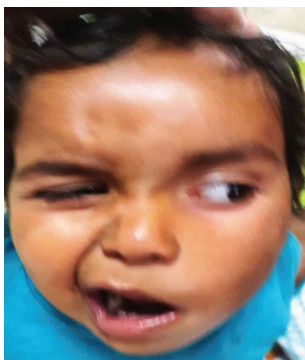


Figure-1: child with grade 6 facial palsy (House-Brackmann classification)

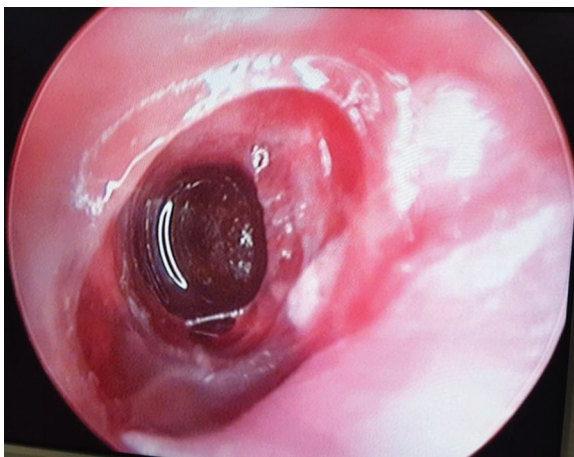


Figure-2: Foreign body in middle ear with tympanic membrane perforation.

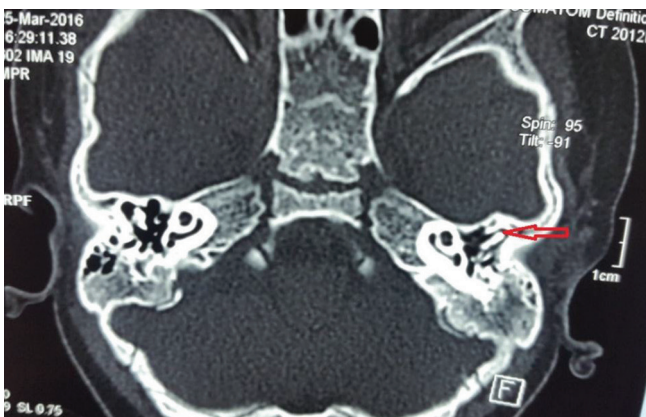


Figure-3: HRCT temporal bone with normal ossicles and middle ear.

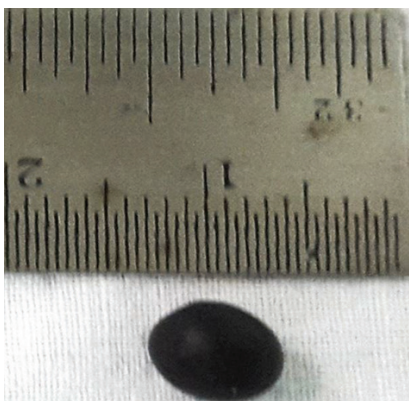


Figure-4: Vegetative Foreign body (Flower Seed)

children in emergency department. The most frequent in the otorhinolaryngological area are the foreign bodies of the external ear.⁴⁻⁶ In a series by Singh et al of 738 consecutive cases, 3 most common FBs were seeds and grains (12.05%), toy accessories (10.02%), and small cotton swabs (9.21%).⁴ In our case, it was a round hard flower seed fitting tightly in EAC [figure 4], which made it difficult to remove and further manipulation shifted it to middle ear.

Removal of foreign bodies is easy most of the times but difficult cases like FB deep in EAC and tightly fitting FB should be referred to otolaryngologist. Success at removal depends on the type of foreign body, the co-operation of the patient, the type of instrument used, and the experience and skills of the physician.⁸ It is a matter of debate that who should remove the FB, whether health care professionals in emergency department or should only be removed by otolaryngologist. In few studies that have examined the success rate by emergency department personnel only, the reported rates are as low as 53% and as high as 80%.^{10,11} Thompson et al feel that otolaryngologists should directly manage patients with firm and rounded FB in the first instance; emergency department personnel can manage other FB.¹¹ Ideally foreign body in an uncooperative patient should not be manipulated without general anaesthesia for good outcome. In our case improper management by local physician has led to complications.

The complications occur mostly in 0 to 6 years old age group.¹² Common complications of foreign bodies include hematomas, granuloma formation, tympanic membranes perforations, canal abrasions, and otitis externa.¹⁰ In our case the complications includes canal abrasion, TM perforation and facial nerve injury. In our case the facial nerve injury was House- Brackmann grade 6 at presentation which recovered to grade 1 post operatively.¹³ It was due to foreign body impinging on dehiscent facial nerve in middle ear. Facial nerve injury being a very rare complication as reported in our case.

CONCLUSION

The foreign bodies in ear can be removed easily by physician or by a nurse in peripheral hospitals if the size of FB is small and is present in outer one third of EAC. The use of proper instruments like jobson horne probe, crocodile forceps and good light is must to remove FB from ear. The patient should be referred to otolaryngologist if FB large, tightly stuck to the canal and present in medial one third of EAC near the TM. If the FB is Impacted and those with complications should be removed under general anaesthesia.

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