

UNUSUAL EAR FOREIGN BODY REMOVAL – A CASE REPORT

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Abstract

Foreign bodies in the ear, while common, can pose a medical challenge when neglected. Instances of foreign bodies (FBs) in the external auditory canal (EAC) are prevalent across all age groups but notably affect children and adolescents. Cotton wool is the most frequently encountered aural foreign body in adults. Timely identification and removal are paramount to prevent complications. Cases involving neglected foreign bodies in the ear are rare, presenting unique challenges in diagnosis and management. This report details a case of glass fragments as a foreign body that went unnoticed post a road traffic accident. The delayed discovery prompted appropriate management. This underscores the importance of considering aural foreign bodies in the differential diagnosis for individuals with unilateral symptoms, as rare but significant complications can arise, especially with delayed diagnoses. Emphasizing prompt ear examination following road traffic accidents is crucial to prevent complications associated with neglected foreign bodies.

Keywords: Foreign Bodies, Ear, Adult, Emergency, Removal.

INTRODUCTION

Encountering foreign bodies in the external ear canal is a common and occasionally challenging issue (1). The external auditory canal (EAC) is the primary site for such occurrences, especially in children, constituting 44% of reported cases (2). Ear foreign bodies are a common occurrence, especially in children. The presence of an inanimate foreign body in the ear of an adult, without their knowledge, is exceptionally rare [3]. Mentally ill adults may also exhibit a tendency to insert foreign bodies into their ears [1, 4]. In emergency medicine, foreign bodies in the ear are relatively common.

These foreign bodies can be classified in various ways, such as organic or inorganic, animate or inanimate, metallic or non-metallic, hygroscopic or non-hygroscopic, regular or irregular, soft or hard, and so forth, based on their nature [6]. In the majority of cases, foreign bodies in the ear are not deemed serious. The urgency of the situation depends primarily on the nature of the substance and its precise location. Successful removal requires adequate vision, appropriate equipment, a cooperative patient, and a skilled physician [1]. Certain types of foreign bodies, like button batteries, necessitate emergent removal due to their potential to cause liquefactive necrosis. However, for most inorganic objects, removal from the external auditory canal (EAC) is not considered emergent. Prolonged retention of foreign bodies, though, can result in significant oedema of the EAC, making removal more challenging and painful [2].

Complications can arise from the act of introducing foreign bodies or the foreign bodies themselves [3]. In this context, we present a case involving the accidental entry of a foreign body through the EAC. Neglecting its presence led to complications, making the removal process challenging. This case underscores the importance of timely intervention and removal of foreign bodies to prevent complications.

CASE REPORT

A 22-year-old male patient came with complaints of right ear discharge, ear pain and ear block of 2 weeks duration. Also gives history of RTA one month ago following which he sustained injury to right ear and for which suturing of lacerated wound in right post auricular region was done in outside hospital. On Otoscopic examination, right ear – post aural scar present, stenosis of external auditory canal with discharge. HRCT Temporal bone showed opaque foreign body in the anterior aspect of pinna and EAC. Following which removal of foreign body (glass fragments) was done by making a J Shaped incision in the preauricular region. And cruciate incision made in the stenosed EAC and remaining fragments were removed. Tympanic membrane was not visualised. Post operatively patient's bilateral facial nerve was found to be intact. At the fourth week of follow-up the ear canal was normal and Tympanic membrane was normal the patient was symptom free. (Figures: 1 to 3)

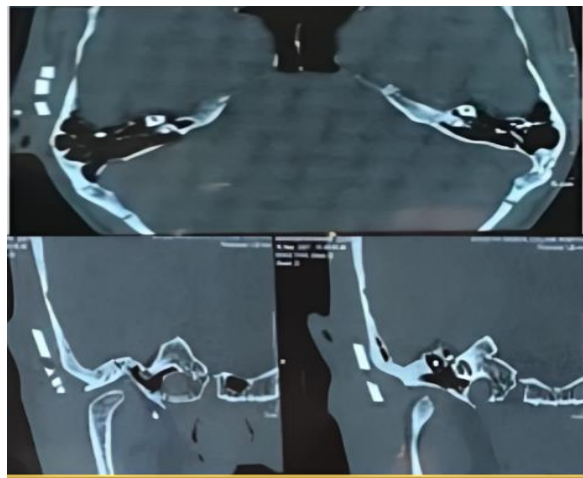


Fig 1: HRCT temporal bone showing radio-opaque foreign body.

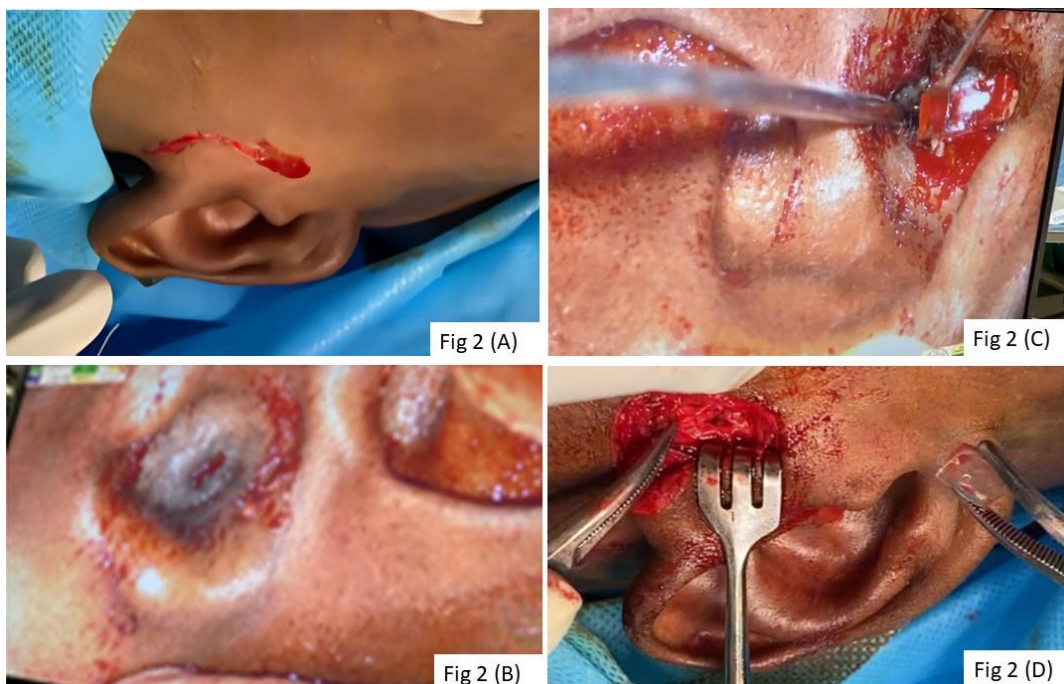


Fig 2: Intra-operative images of foreign body removal



Fig 3: Retrieved foreign body

DISCUSSION

Foreign bodies in the external ear canal are more commonly observed in children, but they can also occur in adults. The most commonly encountered foreign bodies in the ear include cotton wool, insects, beads, paper, small toys, and erasers. In adults, live insects, cotton wool, and broken matchsticks are frequently observed foreign bodies, often used for clearing or scratching the ear canal [3]. Removing aural foreign bodies (AFB) presents technical challenges due to the ear's anatomy—a complete canal, with cartilage in the outer third and bone in the inner two thirds. This structure limits the space available to maneuver instruments, making removal more difficult. Additionally, the ear canal is richly innervated, rendering it highly sensitive. Therefore, the method chosen for AFB removal should be tailored to each case, considering the type and size of the foreign body and its location within the external auditory canal (EAC) [11]. Aetiological studies on ear, nose, and throat foreign bodies indicate that cotton wool accounts for 13%–18% of all foreign bodies seen by ENT (Ear, Nose, and Throat) surgeons, making it the most prevalent type of foreign body seen in adults [4,13]. Self-insertion of foreign bodies has been recognized as a common occurrence in children and individuals with psychological disturbances. In adults, the presence of foreign bodies in the external auditory canal (EAC) is not uncommon, but the dynamics differ. Adult patients are generally more mature, cooperative, and often aware of what they have inserted into their ears. The types of foreign bodies are limited, and the presentation is typically unilateral. The self-insertion of foreign bodies in such cases may reflect incorrect habits, traditional beliefs, or, more recently, misguided practices [7]. In cases of self-inserted foreign bodies, where insertion occurs accidentally, such as with cotton wool, the deep-seated foreign body may become inaccessible for self-removal. This often prompts the patient to seek medical assistance. Adults typically present later in the course of such incidents, usually after attempting various self-removal methods without success [5].

The existing literature indicates that 75% of patients with aural foreign bodies are asymptomatic at the time of presentation. For those who do experience symptoms, the most common presenting complaints include unilateral otalgia, bleeding from the ear, otorrhea, hearing loss, or a sensation of fullness in the ear [8, 13]. Alternatively, symptoms may involve hearing loss, tinnitus, cough, dizziness, facial palsy, or may be incidentally discovered during routine otoscopic examination [8].

Cotton wool foreign bodies are the most frequently encountered foreign bodies in the adult population and are commonly utilized by the general public. While rare, aural foreign bodies can lead to significant complications. Timely identification and removal of foreign bodies are crucial to minimize the risk of complications. It is advisable to consider the possibility of a foreign body in patients presenting with unilateral aural symptoms, irrespective of age [13]. The diagnosis of an external ear canal foreign body is typically straightforward and does not necessitate any special investigations [3]. In our specific case, the patient presented with Otitis Externa and a history of previous trauma. To further investigate this presentation, a CT temporal bone was recommended. In a previous study with a comparable scenario, a foreign body was successfully removed using a post-auricular approach in the presence of otitis externa [3]. In contrast to our case, the removal of the foreign body in this instance was carried out through the external auditory canal (EAC) using an anterior approach. It's noteworthy that certain types of foreign bodies, such as button batteries, require urgent removal. However, for most inorganic objects, removal from the EAC is not considered urgent. Prolonged retention, though, can lead to significant edema of the EAC, making removal more challenging and painful [2].

The rates of complications are influenced by various factors, including patient age, nature of the foreign body, the instrument used, and the skill of the practitioner. Notably, patient age and the degree of cooperation are considered the most crucial factors influencing the complication rate [8]. Adequate immobilization and proper technique are crucial elements in minimizing complications during the removal process. The utilization of appropriate instruments facilitates the uncomplicated removal of many external auditory canal (EAC) foreign bodies in the paediatric population. In very young children and in cases where the contour, composition, or location of the aural foreign body predisposes to potential trauma during ambulatory removal, the preference is for the use of general anaesthesia [6].

Approximately 75% of external auditory canal (EAC) foreign bodies can be successfully removed in outpatient settings or emergency departments, while 23% may necessitate general anaesthesia in the operating room [2]. For firmly impacted foreign bodies medial to the isthmus, surgical removal is recommended. A post-auricular approach, along with widening the ear canal using a bone drill, is advised [3]. Various instruments are commonly employed to manage foreign bodies, including alligator forceps, cup forceps, right-angle hooks, Schuknecht foreign body suction tips, curved Rosen picks, Jobson Horne probe, ear curette, ear loop, and balloon catheters like the Fogarty catheter.

The use of fine, sharper instruments is significantly facilitated by binocular microscopy. Otomicroscopy and cyanoacrylate (Super Glue) can also be utilized [1,2,7,9]. Irrigation is a common option for the removal of foreign bodies from the external auditory canal. Suction, typically performed with a Frazier tip under binocular microscopy, is also considered. Complications related to the introduction of foreign bodies or the foreign bodies themselves may include laceration of canal skin and otitis externa, facial palsy, tympanic membrane perforation, and ossicular chain damage [3,7]. In the case of a neglected foreign body, such as in our scenario, stenosis of the external auditory canal (EAC) occurred, leading to the unusual removal of the foreign body. This highlights the importance of timely intervention to prevent complications and ensure the proper and less challenging removal of foreign bodies.

CONCLUSION

Early recognition and treatment of ear foreign bodies is essential to overcome complications

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