

CASE REPORT

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Post-traumatic Foreign Body Causing Mastoiditis: A Rare Case Report

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ABSTRACT A foreign body in the ear, nose or throat' is a common condition in otolaryngology and emergency clinics. Sometimes this situation can cause serious complications. A few of foreign bodies may need to be removal under operating room conditions and it is important to perform the first examination by otolaryngologists in reducing complications. In this case report, a 9-year-old patient who applied to our clinic with symptoms of bleeding and discharge in the external auditory canal after trauma is presented. The foreign body in the mastoid cavity was removed by simple mastoidectomy. With this case, complications of foreign body in the temporal bone will be discussed in the light of the literature.

Keywords: Foreign bodies; mastoiditis; temporal bone; complications

The foreign body is occasionally seen in otolaryngology practice. In daily otolaryngology practice, ear is the most common place for a foreign body, followed by foreign bodies in the nose and pharynx, respectively. Most of the cases are children under the age of 10. Foreign bodies are generally associated with food or small toy parts.^{1,2}

In children, the majority of foreign bodies in the ear are small pieces of paper, beads, and plastic. Many foreign bodies are removed easily in the outpatient practice. However, a few of them may need to be removed in operating room conditions.^{1,3} External ear canal laceration, abrasion, and less frequently, tympanic membrane perforation are among the complications that may occur during the removal of a foreign body from the ear.³

CASE REPORT

A 9-year-old male patient applied to our clinic with complaints of bleeding and discharge in the right ear. He had used ceftriaxone 1 g/day for the last 6 days. It

was learned that the patient had a history of blunt trauma with a piece of wood in the right ear 2 months ago.

In physical examination, a hemorrhagic polyp was present in the right external auditory canal. Due to this polyp, tympanic membrane could not be evaluated clearly at the first examination. No additional pathology was detected in the otolaryngological examination of the patient. Polyp excision was planned for the patient under sedation. During the operation, the hemorrhagic polyp that was originated from the posterior wall of the external ear canal was observed and removed. After removing the polyp, a splinter was observed just in front of the tympanic membrane and removed. Paracentesis was performed on the tympanic membrane, which was monitored as normal. The middle ear was observed naturally. In the 1st month control postoperatively, it was observed that the polyp was recurred in the right external ear canal. In addition, a piece of wood was observed in the polyp. On the audiogram, there was conductive hear-

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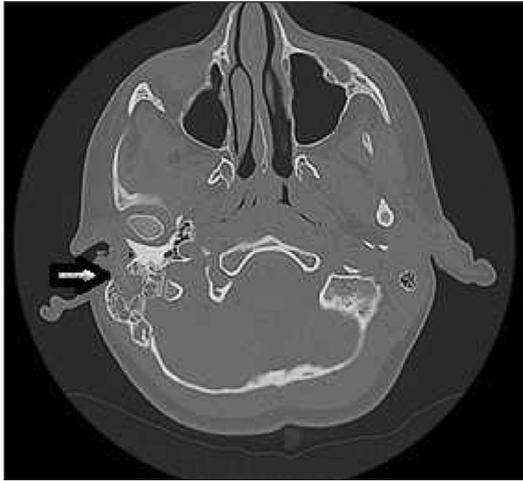


FIGURE 1: Radiological image of a properly bounded lesion on temporal computerised tomography.

ing loss in the right ear. On computerised tomography imaging for temporal bone, a mild hyperdense smooth confined lesion (foreign body?) which extending from the right external ear canal to the anterior of the right mastoid bone, size of 10x2.5 mm was detected (Figure 1).

Simple mastoidectomy was planned for the patient. The operation was started with retroauricular incision. During the operation, it was observed that there was a defect on posterior bone wall of the external ear canal laterally. There were polypoid tissue and splinter fragments from this defected part towards the external ear canal (Figure 2).

Simple mastoidectomy was performed. Soft tissues in mastoid cells and perifacial cells were opened up (Figure 3).

Foreign body was removed (Figure 4). No complications were observed. The pathology of the removed tissues was reported as inflammatory polypoid tissue. During the postoperative 1st month control, no pathology was observed in the external ear canal. The tympanic membrane had an intact and natural appearance. The patient did not come to follow-up after the first postoperative month.

DISCUSSION

Although foreign bodies are in varying proportions, they are most frequently observed in the ear. There may sometimes be delays in diagnosis due to the lack

of symptoms or nonspecific symptoms.⁴ Performing the first examination by otolaryngologists significantly reduces complications.⁵

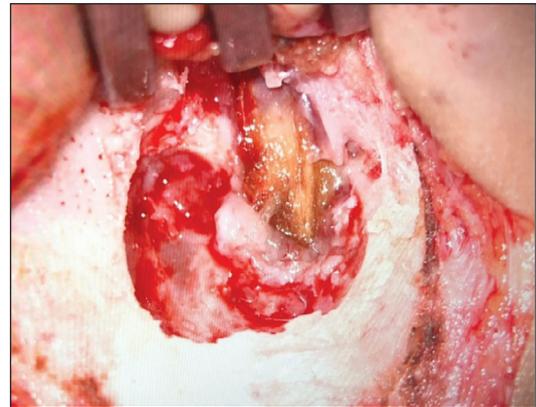


FIGURE 2: Microscopic view of a piece of wood extending into the mastoid bone.



FIGURE 3: Microscopic view of the mastoid cavity after removed polypoid tissues and piece of wood.



FIGURE 4: Foreign body, piece of wood, size of 13x2.5 mm.

TABLE 1: Complications related to foreign body in temporal bone.

| Common complications | Rare complications |
|-------------------------------|----------------------------|
| External ear canal laceration | Mastoiditis |
| External ear canal abrasion | Facial paralysis |
| Tympanic membrane perforation | Hearing loss |
| | Meningitis |
| | Labyrinthitis |
| | Osteomyelitis |
| | Orbital apex syndrome |
| | Cavernous sinus thrombosis |
| | Death |

Serious complications related to the foreign body in the ear have been rarely reported (Table 1). In the literature, cases of suppurative labyrinthitis and osteomyelitis due to cotton as a foreign body in the ear have been reported.⁶

Verma et al. reported that a 5-year-old patient who applied with chronic otitis and facial paralysis, a foreign body (seed) was detected in the granulation tissue in the middle ear during mastoidectomy surgery.⁷

Detection of a live foreign body in the ear is an issue that needs special attention. As with all foreign body situations, the first intervention of live foreign bodies by the specialist physician reduces the complications and provides an early treatment chance. Serious complications such as orbital apex syndrome, cavernous sinus thrombosis, and even death due to these complications have been reported in the ear.⁸

It is also necessary to be very careful in the use of various materials used for the treatment of diseases. In the literature, it has been reported that ear wick for otalgia treatment causes serious complications such as mastoiditis and meningitis in a 12-year-old child.⁹

Therefore, follow-up after the use of these materials is also very important.

Foreign bodies can lead to different clinics by causing traumatic injuries. In the literature, the case of chronic otitis externa is mentioned as a result of foreign body penetration to the external ear canal from the oral cavity.¹⁰

In our case, a 9-year-old child presented to our clinic with a discharge and bleeding hemorrhagic polyp in the external ear canal 2 months after the trauma. With simple surgical intervention, polyp and wood splints were removed in the external ear canal. Nevertheless, the patient's symptoms repeated 1 month later. This situation shows us that it is important to use imaging methods for the correct detection of pathologies. In our case, no complications were observed other than mastoiditis.

Caution should be taken in patients with a suspicious history to prevent possible complications and to start treatment early. Possible pathologies must be determined by imaging methods.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

All authors contributed equally while this study preparing.

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