



Foreign body seen in middle ear surgery – Our experience and review of literature

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Abstract:

Foreign body in the ear is common in children and mentally ill adults. In our experience we encountered two cases of foreign body (Neem extract) in the middle ear accidentally during mastoidectomy with tympanoplasty. Both the patients disclosed the traditional way of instilling neem leaves extract as medication in the postoperative period. This article states the rare foreign body (neem extracts) in middle ear found during the middle ear surgery which is purposefully used as medication.

Key words: Azadarichta indica; Chronic ear discharge; Ear foreign body; Middle ear foreign body; Neem extracts.

Introduction

Foreign body in ear is a common problem in pediatric population. In adults mostly we encounter accidental animate foreign body like cockroaches. Presence of inanimate foreign body in ear of an adult patient is very rare. Sanjay Arora reported a case of an adult patient with an unusual foreign body, beedi (a south Asian form of cigarette made by rolling tobacco in a tendu leaf) in his ear [1]. He attributed that foreign body to psychiatric illness of the patient and stated that all adult patients with inanimate foreign body ear should be subjected to psychiatric evaluation.

John Hopkins emergency department (US) 1987 found that the most common etiology in adults (85% in 106 patients) was accidental entry of insects, 50% of these being cockroaches [2]. Bressler, (US) 1993 also found cockroaches to be the most common foreign body amongst 98 patients, although they did not differentiate between adult and paediatric groups [3]. Antonelli similarly reported beads and insects, particularly cockroaches; to be the commonest foreign bodies in the external auditory canal from 273 combined paediatric and adult patients [4]. Certain foreign bodies in the ear can involve the middle ear, making removal difficult. A few sporadic

reports describing middle ear foreign bodies as a complication of hearing aid ear mold fitting have been described [5-8].

Case Report

Case 1

Twenty year old female with the history of bilateral ear discharge since childhood and hard of hearing for four months came to our OP department on March 2008. She was diagnosed as bilateral chronic suppurative otitis media –Tubotympanic type with bilateral conductive deafness more on the right side . We proceeded with the right side simple mastoidectomy and tympanoplasty and found a bit of leaf of size 0.4 cm in the middle ear. In the post operative period we confirmed it as neem leaf by eliciting the history of using neem leaves as medication. The patient was followed up for three months at regular intervals until her ear was dry with intact graft.

Case 2

Twenty nine year old female with bilateral ear discharge since 10 years of age and hard of hearing for four months came to our OP department on October 2012. She was diagnosed as bilateral chronic suppurative otitis media –Tubotympanic type with bilateral conductive deafness more on the left ear. We investigated and advised surgery on left ear. The patient was not willing for surgery immediately but after two months she presented with smooth swelling in left posterior canal wall. Examination of the ear under microscope was done and swelling was aspirated and a bit of cyst wall got in the suction tip was sent for histopathological examination. Pathologist report was suggestive of chronic inflammation and patient was followed with oral antibiotics.

Patient was reviewed after fifteen days and we proceeded with left simple mastoidectomy with tympanoplasty. During the surgery on elevating tympanomeatal flap, a firm to hard foreign body was found in the middle ear abutting the tympanic part of facial nerve. On touching it rotated and occupied the anterior wall of middle ear (Fig. 1).we grasped with cup forceps and extruded from the middle ear and identified as stalk of neem leaf with the length of 1.1 cm (Fig.2). Only in the postoperative period we were able to gather the information of using native medicines (Neem extract) in the discharging ear. Patient was reluctant for surgery during her first visit because of the belief, she had in the native medicine.

Follow up was done at regular intervals for three months until her ear was completely dry with intact graft.



Figure 1



Figure 2

Discussion:

In our clinical experience, we see many patients attending our op department with a history of cotton wool tips while cleaning the discharge due to chronic suppurative otitis media. It often lies in deep in the external auditory canal or slightly entering in to middle ear. This correlates with the statement by Ryan , who found the majority of

foreign bodies in adult patients was tips of cotton buds which was used by the general population for cleaning [9]. Kadish also described molding material that entered a patient's middle ear through pre-existing tympanic membrane perforations in both ears [10].

In our study, we elicited the history of instilling neem leaves extract in to the discharging ears as medication only after visualizing bits of leaf extracts during middle ear surgery. While treating the patients with long standing discharging ears we should always suspect foreign body apart from resistance of organism to antibiotics especially in rural areas, in India. The foreign body in the discharging ears may be either cotton bud tip or extracts of vegetative matter. Accidental visualization of vegetative foreign body in the external ear or middle ear reveals the native medicines were in practice in rural areas despite the development of modern medicines.

Azadirachta indica (Neem) is a timber tree from which various products are extracted for use as an insecticide, fertilizers and medicines. In India, it is popularly known as the village dispensary as described by Akula, 2003 [11]. The therapeutic efficacy of the *Azadirachta indica* has been described by practitioners of traditional medicine. The medicinal utilities have been described, especially for leaf, fruit and bark [12].

Oil from the leaves, seeds and bark possesses a wide spectrum of antibacterial action against Gram-negative and Gram-positive microorganisms, including *M. tuberculosis* and streptomycin resistant strains [13]. Nimbolide extracted from the oil of seed kernels of *Azadirachta indica* also shows antibacterial activity against *S. aureus* and *S. coagulase* [14]. Isomargolonone isolated from neem stem bark are active against *Klebsiella*, *Staphylococcus* and *Serratia* species [15].

A.M.EL-Mahmood quoted, that neem seed was the popular medication amongst the practitioners of traditional medicine and other knowledgeable rural dwellers in the northern parts of Nigeria [16]. They crashed the seeds and the juices coming out are pressed several times on the infected ear to obtain an effective dosage. A.M.EL-Mahmood et al also described the effects of crude extracts of seeds of *Azadirachta indica* (Neem) against pathogenic *Staphylococcus aureus*, *Staphylococcus pyogenes*, *E.coli* and *Pseudomonas aeruginosa* obtained as clinical isolates from patients diagnosed with eye and ear infection [16].

Conclusion:

We documented two cases of accidental visualization of vegetative foreign body (Neem leaves extract) during middle ear surgery because of its rarity. Eliciting meticulous history of using native treatment in rural patients will help you in suspecting foreign body in a chronically discharging ear. Using native medicines like neem extracts etc in chronic discharging ear is not only common in rural parts of India but also in various parts of the world, Clinician holds responsibility of educating rural population against indiscriminate use of native medicines.

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