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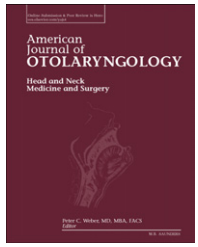

Incidentally Detected Middle Ear Osteoma: Two Cases Reports and Literature Review☆,☆☆

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ABSTRACT

Osteomas of the middle ear are rare benign neoplasms. To date, only a few cases have been reported. Osteomas of the middle ear are small, single, usually unilateral, peduncular growths, off-white in color, with a smooth or multilobular surface, asymptomatic or causing functional disorders. The most common symptom is conductive hearing loss because of impingement of the ossicular chain. Some cases are asymptomatic and are diagnosed incidentally. We present two cases of incidentally detected middle ear osteoma. Based on a review of the main articles in the literature and analysis of two cases managed in our department, we describe the clinical spectrum, etiology, and management of middle ear osteomas.

1. Introduction

Temporal bone osteomas are benign tumors of lamellar bone which are most commonly found in the external auditory canal (EAC). Osteomas in the middle ear are tumors that are rarely seen. Most are confined to the mesotympanum and cause conductive type, unilateral and progressive hearing loss [1]. Some osteomas are asymptomatic and are diagnosed incidentally. Temporal bone osteomas usually occur in young patients, and present as a single unilateral lesion, of unknown etiology. The goal of this paper is to report two cases of middle ear osteoma and delineate the clinical spectrum by reviewing 34 published cases.

2. Case reports

2.1. *Case 1*

A 13-year-old boy presented to our department for evaluation and a white mass was detected in his right ear. Otoscopic examination of the right ear showed the white mass behind the intact tympanic membrane (right) in the anterior tympanic cavity (Fig. 1A). The patient denied tinnitus, trauma, prior surgery, ear infection or vestibular symptoms. Otoscopy of the left ear revealed an intact tympanic membrane.

Preoperative audiologic evaluation revealed normal hearing in both ears (Fig. 2A).

Computed tomography (CT) revealed a 4 mm sized irregularly shaped calcic density mass in the mesotympanic cavity of the right ear with no other middle ear pathology. The mass was located inferior to the ossicle and abutted the anterolateral bony wall. There was no direct contact with the ossicle.

A right exploratory tympanotomy was carried out under general anesthesia and revealed a rock hard white bony mass anteroinferior to the malleus. The mass was originating from the anterolateral wall. There was no involvement of the ossicular chain. The osteoma was removed along with the adjacent bony wall using a small diamond burr (Fig. 1B). Pathologic result of the bony mass was compatible with

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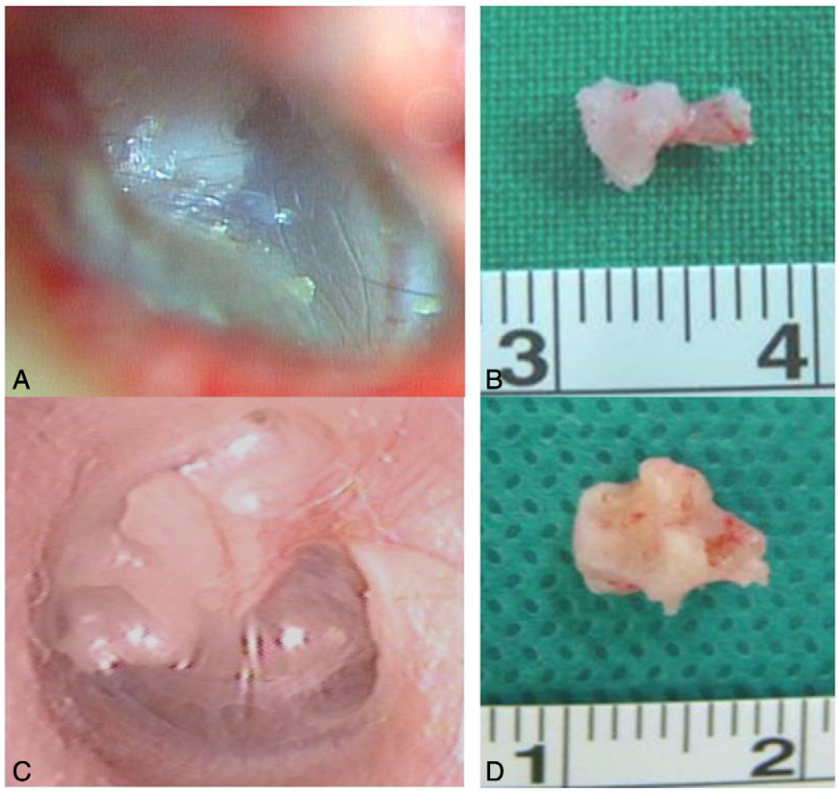

Fig. 1 – (A) Intraoperative view showing whitish bulging mass behind the intact tympanic membrane. (B) Complete specimen shows the rock-hard bony mass. (C) Otoendoscopy showing a whitish mass behind the left tympanic membrane. (D) Removed osteoma.

osteoma (Fig. 3A). The postoperative period was uneventful and the patient recovered completely.

2.2. *Case 2*

A 28-year-old man presented to our department for evaluation and a mass was detected in his left middle ear cavity. Otoscopic examination revealed a whitish mass behind the left tympanic membrane, and there was no perforation (Fig. 1C). The patient denied tinnitus, trauma, prior surgery, ear infection or vestibular symptoms. Otoscopy of the right ear revealed an intact tympanic membrane. Audiologic evaluation identified mild conductive hearing loss on the left side (Fig. 2B). A preoperative CT scan revealed a bone density mass in the epitympanum of the left ear with no evidence of bony erosion or soft tissue mass.

Surgical resection was performed under general anesthesia via a retroauricular incision. Following skin dissection and exposure of the bone tumor, the tumor was completely resected using a bone chisel (Fig. 1D). The mass was originating from the cochleariform process.

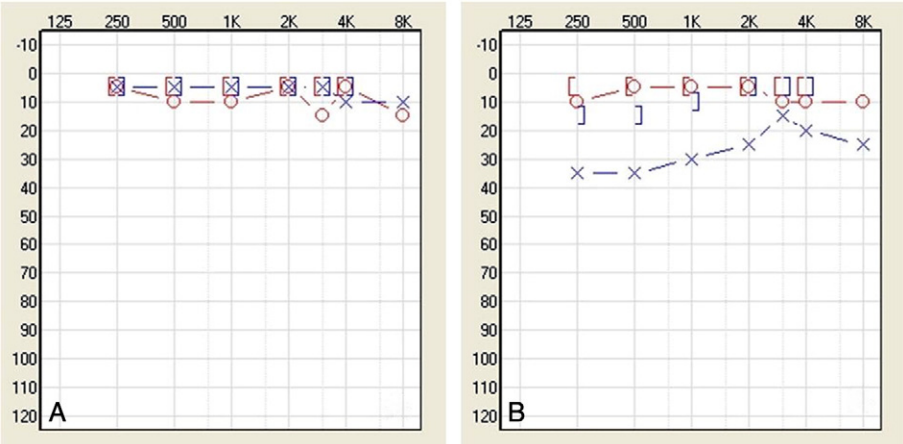

Fig. 2 – (A) Preoperative audiogram showing normal hearing in both ears. (B) Preoperative audiogram showing a mild conductive hearing loss on the left side. Air conduction: right, o; left, x. Bone conduction: right [; left].