CASE STUDY

Lipoma of the Middle Ear: An Unusual Presentation in a 6 Year Old Child

Lipoma de oído medio: una presentación inusual en una niña de 6 años

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Clinical Case

A 6-year-old girl with Down syndrome was referred to our team for joint management. She was having severe speech and language difficulties. Her hearing was assessed, and the pure tone audiometry showed a moderate conductive hearing loss (40 dB) in the left ear and profound hearing loss in the right ear.

A CT scan and MRI of temporal bone (Figs. 1 and 2) revealed a hypodense mass in the left tympanic cavity and malformation of the right inner ear.

Examination revealed a yellowish opaque mass showing through the antero-inferior segment of the tympanic membrane, and the right tympanic membrane was normal. Left middle ear exploration was done, and this revealed an encapsulated lump of fatty tissue filling the anterior middle ear space; the ossicles were intact. The incus and malleus head were removed in order to obtain access to the epitympanum and ossiculoplasty was done by putting the cartilage between malleus and stapes. Histologic studies revealed fibroadipose tissue composed of mature adipocyte, consistent with lipoma (Fig. 3).

The patient’s postoperative course was uneventful and left audiometry improved from a preoperative value of 40 dB to a postoperative value of 30 dB, and there was no radiological examination post operation.

Discussion

The differential diagnosis for a middle ear mass includes: congenital or acquired cholesteatoma, cholesterol granuloma, inflammatory polyp, facial nerve neuroma, eosinophilic granuloma, adenoma, adenocarcinoma, squamous cell carcinoma, rhabdomyosarcoma, sarcomas, angiosarcomas or a middle ear lipoma, amongst others. This mass was felt to be a lipoma with a high degree of confidence intra operative, despite its extreme rarity, based on its characteristic appearance.

Adipose tissue is derived from mesenchyme. The principal tumors of this mesenchymal derivative are lipoma and liposarcoma. Lipomas are extremely common benign tumors which are usually asymptomatic and most commonly occur in the subcutaneous tissue of the neck and trunk. Deep seated lipomas are infrequent and occur in the retroperitoneum and mediastinum. Lipomas are composed of mature adipose tissue, and several subtypes occur when other mesenchymal elements are present, such as fibrolipoma, angiolipoma and...
Figure 1  CT scan of left temporal bone showing a hypodense mass in the left tympanic cavity.

Figure 2  MRI (T2 weighted images) of temporal bone showing a hypointense mass in the left tympanic cavity, right enlarged vestibule, the right canal semicircular lateral and posterior are not visible.

myelolipoma. Lipomas have infrequently been described in the middle ear.

Lipomas in the middle ear are rare, and only six cases have been previously reported in English literature.1–6. The most common clinical characteristics of the middle ear lipoma are conductive hearing loss, facial nerve weakness if it is unremarkable size and the examination of the tympanic membrane revealed a yellowish opaque mass. The radiological characteristics of the middle ear lipoma, and the CT scan of temporal bone revealed a hypodense mass; MRI imaging of middle ear lipoma characterized a hyperintense in T1- and hypointense in T2-weighted images.

Conclusion

Middle ear lipomas do occur, but are quite rare. Middle ear lipomas should be considered in the differential diagnosis of a middle ear mass

Conflicts of Interests

The authors have no conflicts of interest to declare.

References