CASE REPORT

KERATOSIS OBTURANS MANIFESTING AS SENSORY NEURAL HEARING LOSS: A RARE CASE REPORT

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ABSTRACT: Keratosis obturans is characterized by accumulation of desquamated keratinous epithelial material in the bony portion of the external auditory canal. We present a case of keratosis obturans which manifest as sensory neural deafness. A 12 year old female presented with right ear discharge, hearing loss (sensineural), mass in the external auditory canal and otalgia. Patient initially treated with conservatively as keratosis obturans with no improvement. Then patient was taken for otoendoscopic mass removal which gives improvement of hearing and histopathologically proved as cholesteatoma. Post operatively sensorineural hearing loss improving well with good tympanum.

KEYWORDS: Choleasteatoma, Keratosis obturans, otoendoscopy, sensory neural hearing loss.

INTRODUCTION: keratosis obturans is a collection of keratotic mass of desquamating squamous epithelium with a sebum, cerumin which are all impacted and surrounded by granulation tissues in the external auditory canal. Classically, it is reported to present with severe otalgia, conductive hearing loss and global widening of the external auditory canal.[1] It results from faulty migration of squamous epithelial cells which usually arise from surface of tympanic membrane and adjacent part of canal wall and get mixed with cerumen to form dense plug.[2]

The keratosis obturans is usually bilateral and frequently associated with bronchiectasis and sinusitis in younger patients.[3] The keratosis obturans pathologically appears as a dense plug of keratin debris with associated hyperplasia of underlying epithelium, chronic inflammation of subepithelial tissue [4] and a generalised widening of bony canal that may cause smooth erosion of medial canal rarely posing some danger to deep structures. We report a case of keratosis obturans which manifest as sensory neural deafness in a child.

MATERIALS AND METHODS: CASE REPORT: A 12-year old female (Figure 1), with scanty, foul smelling purulent ear discharge right ear, otalgia and hard of hearing of three weeks duration. Not associated with tinnitus, vertigo, vomiting and headache. On examining the patient, grayish white, cheesy, flaky masses surrounded by granulation tissues present in the right external auditory meatus.

By probing minimal flakes let out and mass obscuring the tympanic membrane. Audiogram suggestive of Sensineural hearing loss (Figure 2). X ray mastoids right ear shows haziness with widening of external auditory canal. The patient is clinically diagnosed as keratosis obturans and conservative treatment given. The patient is not responding to conservative treatment and posted for exploration of external auditory canal under endoscope.

Under general anesthesia, zero degree tympanoscope passed. With the help of micro cuff forceps, microsuction the entire mass is removed into without damaging the underlying tymapnic membrane (Figure 3). After removal of the mass, the bony meatus is widened with erotion and microhaemorrages. Then canal cleaned with saline irrigation and packed with medicated gelfoam and ribbon gauze.

The mass sent for histopathological examination. Mastoid bandage applied. After 24 hours, mastoid bandage removed, canal pack in situ and Facial nerve intact. Antibiotics, antiinflammatory drugs given for 14 days. Histopathology reported as desquamousated epithium in a fibrous stroma suggestive of choleateatoma (Figure 4). Revision otoscopy shows no residual or recurrent mass with intact tympanic membrane. On follow up after 3 months, audiogram shows bone conduction within normal threshold of hearing (Figure 5). Clinically patient improved well with hearing and ear became dry.

DISCUSSION: Keratosis obturans is uncommon and occurs mainly as a chronic desquamative process of ear canal but what initiates the process is poorly known. Although it is often seen as a complication of long standing ear cerumen in external auditory canal, combination of cerumen with squamous epithelial cells, arising usually from skin lining of the external auditory canal.[1] External auditory canal Keratosis obturans is closely related to external auditory canal Cholesteatoma and both have overlapping of sign and symptoms often to an extent that it seems to be the same disease process.

External auditory canal Keratosis obturans is more common than external auditory canal Cholesteatoma and seen more often as complication of neglected or long standing keratosis obturans with extension into bony meatus. The diagnosis of keratosis obturans became apparent on complete removal of cerumen keratosis obturans and during the course of treatment suggesting that clinical suspicion is the key for early diagnosis. Presence of erosions of the bone of external auditory canal particularly in the inferior or posterior wall along with keratin plug must always raise the suspicion of cholesteatoma. Cholesteatoma has the tendency seems significantly high towards recurrence and invasion of middle ear and other vital structures. Regular follow up is necessary to prevent recurrences.[4]The differential diagnosis includes external canal cholesteatoma, necrotizing external otitis, and tumors.[5]

In this case the patient preoperatively diagnosed as Keratosis obturans with sensineural hearing loss which improved well with otoendoscopic removal. Due to the bony perceptive mechanism through the head of the mandible into the bony cochlea is obstructed which leads to sensineural hearing loss. The local bony osteitis due to collagenase enzyme present in the cholesteatoma, is the another cause for poor perceptive mechanism. Usually Keratosis obturans presented with conductive hearing loss in contrast with sensineural hearing loss in this case which is rare.

CONCLUSION: Keratosis obturans may presents as an insidious entity concealing serious destruction with few or no symptoms. Sensineural hearing loss is extremely rare. In children Keratosis obturans with Sensineural hearing loss can affect their communication skill in school. Early diagnosis is paramount to enable optimal intervention and to relieve patient symptoms and

prevent further complications. Aggressive surgical treatment is recommended when complications are present or imminent.[6] With adequate surgical procedures, good outcomes can be achieved with good hearing.

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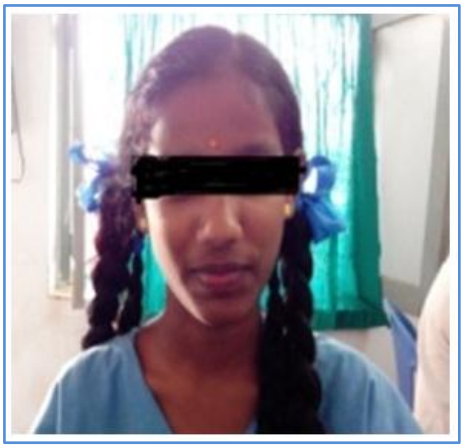

Fig. 1

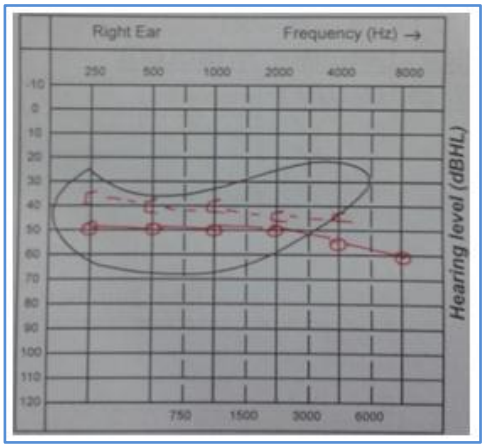

Fig. 2: Preop audiogram

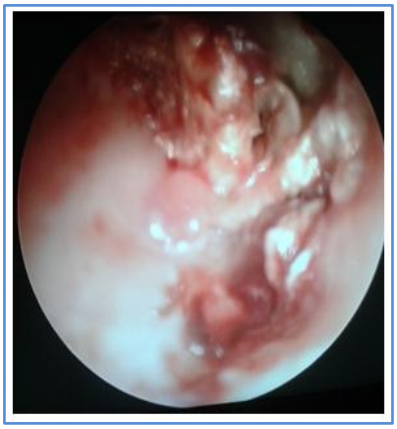

Fig. 3: tympanoscopic picture

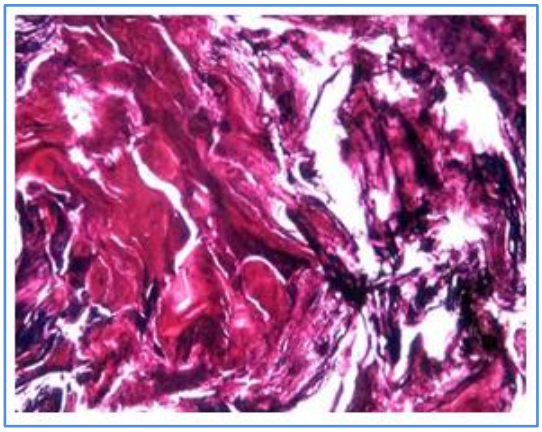

Fig. 4: histopathological picture

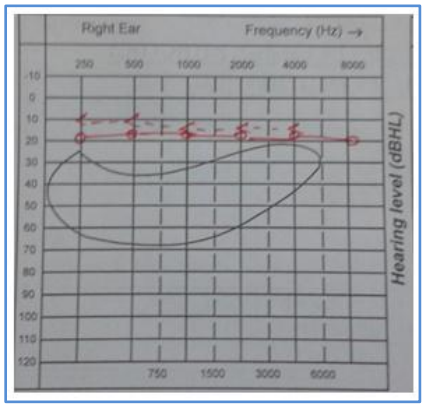

Fig. 5: post op audiogram

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