ORIGINAL RESEARCH PAPER

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KEY WORDS: Inside out mastoidectomy, posterior canal wall reconstruction, endoscopic ear surgery, CSOM complication

AN UNSUAL CASE OF UNSAFE CHRONIC SUPPURATIVE OTITIS MEDIA WITH EXTRACRANIAL COMPLICATION AND ITS MANAGEMENT

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ABSTRACT

Chronic Suppurative Otitis Media is common disease among developing countries and poor socioeconomic status. Despite of broad spectrum antibiotics and surgical procedures if disease is neglected it can lead to various complication like facial palsy, abscess, meningitis etc. Authors present an unsual case of 25 year male patient with squamous type Chronic Suppurative Otitis Media having extracranial complication and its endoscopic management. In this era of modern medicine, complications are quite rare which makes our case unusual as our patient presented with a complication which is not even mentioned in standard textbooks.

INTRODUCTION

Cholesteatoma is a benign keratinizing epithelial lined cystic structure found in the middle ear and mastoid . It causes destruction of the local structures – ossicular chain and otic capsule, thereby leading to complications such as hearing loss, vestibular dysfunction, facial paralysis and intracranial disease or infection.[1] Incidence of unsafe Chronic Suppurative Otitis Media is 3 per 100,000 in children and 9.2 per 100,000 in adults. Male to female ratio 1.4:1. [2]

Complication of CSOM is as follows[3]

1. Intratemporal: - Leptomeningitis, acute mastoiditis , epidural abscess, petrositis, facial paralysis, labyrinthitis.
2. Intracranial : subdural abscess, brain abscess, otitic hydrocephalus, leptomeningitis.

Case Report

A 25yr old male patient presented to ENT department Shyam shah medical College Rewa, M.P. with complaints of left ear discharge since childhood which was scanty in quantity, yellowish in colour, purulent in nature, foul smelling and this was associated with hearing loss which was progressive in nature. Patient also complained of swelling over left side head involving temporal and parietal region since 15 days before visiting to opd.

Patient denied any past history of trauma, systemic disease or any surgeries.

Clinical Examination

Further evaluation with otoscopy and endoscopy revealed polyp present in left external autory canal which appeared to be arising from the posterior wall on probing. On tunning fork test, rinne's was positive for all 3 frequencies (256, 512, 1024) in right ear and negative in left ear, weber's lateralised to left ear.

All the cranial nerve examination was normal with no neurological focal deficits.

On PTA: Right ear hearing was within normal limit, left ear had moderately sever conductive hearing loss (average 70 db loss).

Swelling over the scalp was 4x1.5 cm , poorly localised, soft, non tender, painless, over temporal and parietal region of head. No sign of meningitis were elicited, patient was afebrile.

Radiological Examination

On HRCT temporal bone- Right ear appeared normal. Left ear showed non-enhancing complete opacification involving epi, meso and hypotympanum with erosion of the mastoid septa and ossicular chain as well as sinus dural plate and tegmen tympani. No intracranial abscess seen. Partial opacification of mastoid antrum , aditus, mastoid air cells. Features suggestive of Left side squamous type chronic otitis media.

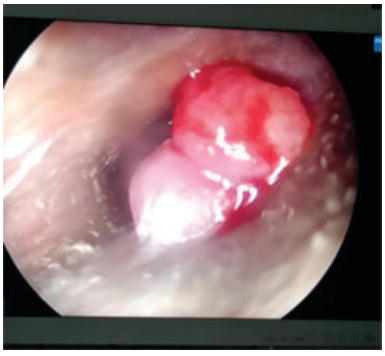

Fig.1 Pre Op Endoscopic Image Of Left Ear

Fig.2 Pre Op Clinical Image Showing Head Swelling

Fig.3 Intra Op Image After EAC Polyp Removal

On CECT head – Peripherally enhancing scalp collection 43x13 mm seen in left parietal region without intracranial extension. Cortical irregularity, erosion and sclerosis seen in mastoid and squamous part of left temporal bone and left parietal bone suggestive of OSTEOMYELITIS. Overall findings suggestive of Left chronic suppurative otitis media with osteomyelitis of left temporal and parietal bone.

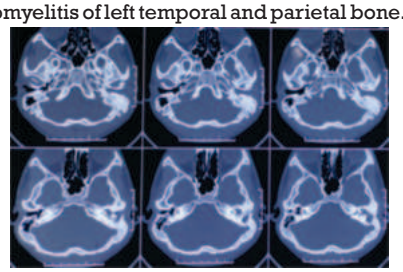

Fig.4 HRCT Temporal Bone (Axial)

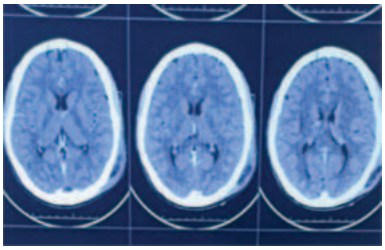

Fig.5 CECT Head Showing Scalp Collection

Management

Patient underwent combined postauricular and transcanal inside out mastoidectomy in two setting. First setting was focussed on eliminatng all the disease (cholesteatoma). Cortical mastoidectomy with transcanal atticotomy was done. Cholesteatoma flakes and sample collected from mastoid and antrum were sent for histopathological examination.

With the help of neurosurgeon , scalp oedema was drained and the osteomyelitic bone drilled and bony chip removed. Dura left untouched and was intact. Wound was sutured and the pus sent for culture and bone chip was sent for HPE.

In second setting the ossicular chain reconstruction was done using conchal cartilage and posterior canal wall was reconstructed using cartilage, after elevating tympanomeatal flap and then temporalis fascia graft placed to covered the defect . Whole surgery was done endoscopically single handedly.

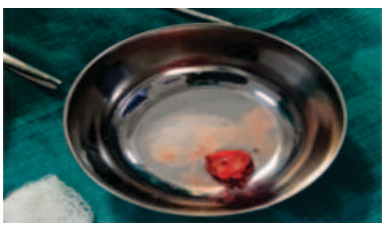

Fig.6 Bone Chip After Craniotomy

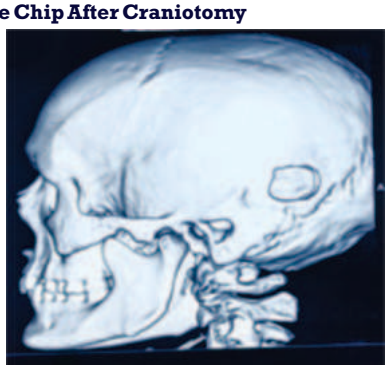

Fig.7 Post Op Ct Showing Craniotomy Area.

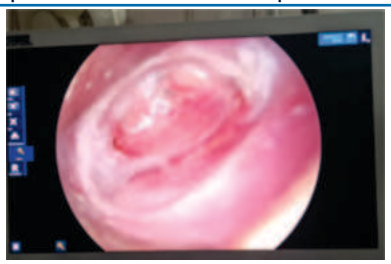

Fig.8 Pre Op Endoscopic Image Of Second Setting Of Surgery

RESULT

Patient is now better and had improved hearing with dry ear. Graft uptake was successful. By endoscopically canal was reconstructed leaving behind with no drilled cavity and making the ear near normal with self cleaning ear. Posterior canal wall which was reconstructed is healed properly.

There is significant hearing improvement of 30 db. (hearing loss was 70db). Facial palsy not encountered preoperatively and postoperatively.

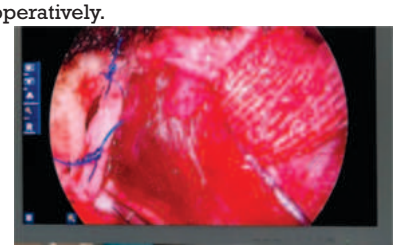

Fig. 9 Intraop Image Showing Reconstruction Using Cartilage

Fig. 10 Post Of Image Showing Graft Insitu.

DISCUSSION

Chronic otitis media is permanent abnormality of pars tensa or flaccid. Inflammation of middle ear space which leads to permanent changes in tympanic membrane, atelectasis, perforation, tympanosclerosis, retraction pocket , cholesteatoma formation. [4]

Complication of otitis media is the spread of infection beyond the lining mucosa of middle ear cleft. [3]

Many risk factors promotes complication like poor hygiene, low socioeconomic status, immunocompromised state etc. Early intervention and the use of broad spectrum antibiotics can minimize the risk of complication associated. Different types of surgical procedures performed to make ear disease free and reduced the chances of spread of infection. With increased use of modern medicines incidence of complication related to CSOM are very much minimized.

In our case patient already presented with the head swelling and ear discharge. After examination and exposing patient

with HRCT temporal bone and CECT head we come to the result with unsafe CSOM with extracranial complication.

For this case combined OT was planned with the help of neurosurgeon to clear disease at a time. For ear we use endoscopic mastoidectomy transcanal and also postauricular route to remove all the disease. Neurosurgeon perfomed craniotomy and removed diseased bone.

For the reconstruction part, second setting surgery was planned in which conchal cartilage was used for the reconstruction of posterior canal wall and ossicular chain using single handed endoscopic approach. Temporalis facia graft placed to cover the defect. After regular followup we get significant result and patient also improved symptomatically. Here author wants to show that the patient present with the unsual symptoms of osteomylitis which is not even mentioned in books. The best part was the use of endoscope for the unsafe ear and the reconstruction of canal which leads to the better results and patient satisfaction. Transcanal mastoidectomy has advantage like , it allow to visualise vital structures easily, has high magnification, depth can be interpreted well and postoperatively no cavity is left behind.

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