



**ORIGINAL RESEARCH PAPER**

**Otorhinolaryngology**

**MULTI-DISCIPLINARY SURGICAL MANAGEMENT OF COMPLICATIONS OF SQUAMOSAL EAR DISEASE IN A PAEDIATRIC CHILD**

**KEY WORDS:** intracranial complications, bone erosion, cholesteatoma, mastoidectomy

**Dr G Sivaprasad** M.B.B.S.M.S ENT, Assistant Professor, Government General Hospital, Kurnool-518002

**Dr SK Nazma** M.B.B.S.M.S ENT, Final Year Post Graduate, Government General Hospital, Kurnool-518002

**ABSTRACT**

Otitis media is a disease that can end up in complications when treatment is delayed. Complications are rare in post antibiotic era. In chronic cases complications can occur due to erosion of bone. This case was a 11 year old female child who was brought to our emergency department with complaints of left ear discharge since childhood she was on irregular oral medication, fever since 1 month, headache, vomiting, photophobia, giddiness, seizures since 2 days. clinical examination revealed left ear foul smelling ear discharge, reservoir sign -positive, mastoid tenderness, rombergs -positive, giat-swaying towards left side, past pointing -positive, dysdiakokinesia-positive, kernigs -positive, brudzinski sign negative. HRCT temporals, MRI BRAIN with MR ANGIOGRAM was taken which revealed homogenous density in left middle ear, mastoid air cells, erosion of sinus plate, thinning of tegmen tympani, ossicular erosion, left cerebellar abscess. A multidisciplinary team of neurosurgeon performed craniotomy and drainage of abscess, we have performed modified radical mastoidectomy (canal wall down mastoidectomy with ossiculoplasty) surgery on this patient later she improved clinically. She was discharged from hospital. she is on regular follow up with improved neurological and otological symptoms

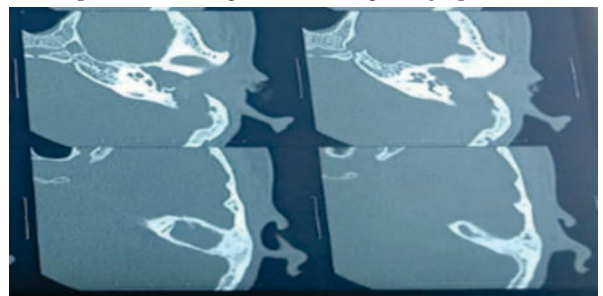
**INTRODUCTION:**

Otitis media is common in developing countries among population of low socioeconomic status . complications in otitis media occurred frequently in preantibiotic era, accompanied by high morbidity. In chronic cases complications are more commonly caused by progressive erosion bone thus increasing the risk of intracranial complications. The tendency of middle ear infections to spread beyond the confines of the middle ear and its adjacent spaces is influenced by a number of factors, including the virulence of the infective organism and its sensitivity to antibiotics, host resistance, the adequacy of antibiotic therapy, the anatomic pathways and the barriers to spread, and the drainage of the pneumatic spaces, both natural and surgical. Brain abscess was the first complication of otitis media and it was successfully treated by surgery. After the introduction of sulfonamides and penicillin the incidence of brain abscess decreased abruptly. This case report is a rare presentation of otitis media with complications in antibiotic era, managed by multidisciplinary approach.

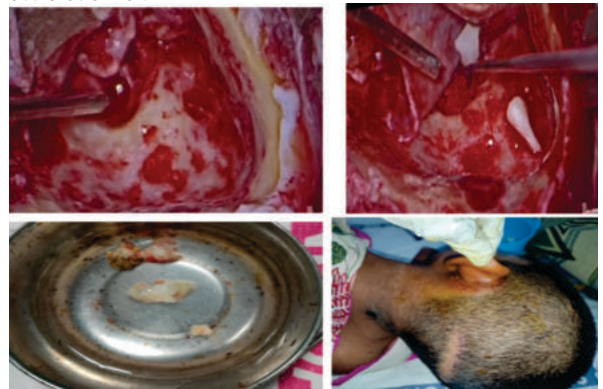
**Case Report:**

A 11 year old female child was brought to our emergency department with complaints of left ear discharge since childhood which was copious in amount mucoid initially but became scanty, foul smelling, blood stained discharge since 6 months, complaints of high grade fever, continuous, relieved temporarily by medication since 1 month. complaints of vomiting (5 episodes), photophobia, giddiness, 3 episode of seizures, lasting for duration of 2 minutes ,not associated with loss of consciousness since 2 days. On clinical examination child is febrile , CNS: motor system is normal, power in upper limb and lower limb 4/5, deep tendon reflexes -2 grade, ankle reflex is present, sensory system normal, rombergs test positive, giat swaying to left side, kernigs sign positive, brudzinskis sign negative, dysdiadokokinesia on left side, point pointing unable to perform with left hand, local examination left ear foul smelling ear discharge, reservoir sign-positive, mastoid tenderness present, fistula test negative ,3 finger test tenderness over mc evans triangle present ,facial nerve intact.HRCT temporals, MRI BRAIN with MR ANGIOGRAM was taken which revealed homogenous density in left middle ear, mastoid air cells, erosion of sinus plate ,thinning of tegmen tympani, ossicular erosion, left cerebellar abscess. A multidisciplinary team of neurosurgeon performed parieto occipital craniotomy and drainage of abscess was done ,pus was sent for culture and

sensitivity , based on culture and sensitivity report she was given i.v antibiotics inj meropenam, amikacin , leveteracitam for 14 days later after stabilization of her general condition we have performed MODIFIED RADICAL MASTOIDECTOMY( canal wall down mastoidectomy with ossiculoplasty )surgery intra operatively there is erosion of malleus, incus and stapes head and stapedia arch only foot plate of stapes is present .cholesteatoma sac is found filling the attic, aditus region extending to mastoid.this specimen was sent for histopathological examination.she was kept on i.v safezone and amikacin for 14 days later she improved clinically and she was discharged from hospital . she is on regular follow up with improved neurological and otological symptoms



**Figure 1** showing soft tissue density in left middle ear, thinning of tegmen plate, erosion of sinus plate, erosion of ossicles on left



**Figure 2** showing mastoidectomy surgery right upper picture showing ossiculoplasty (allogenuous ossicle )left bottom picture showing post operative specimen of

cholesteatoma right bottom picture showing postoperative wound of craniotomy and mastoidectomy

### DISCUSSION

Long standing ear discharge if not treated properly with antibiotics it might lead into complications especially in children because of their poorly developed mastoid process. Among the intracranial complications meningitis is the most common complication. mastoiditis is the most common extracranial complication. In this case the predisposing factors are low socioeconomic status resulting in poor nutrition, over crowding in her family predisposing to rapid spread of infections. As the child presented with history of prolonged ear discharge and symptoms of intracranial complications like headache, fever, vomiting, photophobia, neck rigidity, seizures, immediate radiological investigations was done and left cerebellar abscess was diagnosed along with soft tissue density in left middle ear and mastoid along with erosion of ossicles, thinning of tegmen and erosion of sinus plate was found. Surgery was done to drain the abscess as well as middle ear pathology was removed by canal wall down mastoidectomy, reconstruction of hearing done by conchal cartilage ossiculoplasty and tympanoplasty was done

### CONCLUSION :

Chronic suppurative otitis media with complications occur more commonly in persisting ear discharge cases, particularly in paediatric age group hence they should be carefully monitored by regular follow up and if complications occurs they should be managed by immediate surgical intervention

### REFERENCES:

1. Sharma N, Jaiswal AA, Garg A . complication of chronic suppurative otitis media and their management : A single institution 12 years experience. Indian J Otolaryngol Head and Neck surgery 2015;67(4):353-60
2. kangsanarak J, foonant S ,Ruckphaopunt K , navacharoen N, teotrakul S. extracranial and intracranial complications of suppurative otitis media; report of 102 cases. J laryngol otol. 1993;107(11):999-1004
3. sameul J, fernandes CM, steinberg JL. intracranial otogenic complications: a persisting problem. Jaryngoscope . 1986;96(3):272-8
4. Osma U , Cureoglu S, Hosoglu S .the complications of chronic otitis media: report of 93 cases. J laryngotol. 2000;114(02):97-100