

## Extensive Intra-temporal Cholesteatoma: Presentation, Complications and Surgical Outcomes

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### Aims & Objectives

To review the clinical features, complications, surgical management and post-operative outcomes of medially invasive extensive cholesteatomas and intracranial complications of squamous chronic otitis media.

### Material & Methods

Retrospective review at a tertiary referral center included 20 patients presenting with extensive intra-temporal cholesteatomas or intracranial complications of cholesteatoma from 2011-2013. Inclusion criteria were involvement of the labyrinth, facial nerve, posterior fossa dura and intracranial complications of cholesteatoma. Patients with acute or chronic mucosal otitis media with intracranial or intra-temporal complications were excluded.

### Results

The mean age of patients was 20 years. The presenting features in decreasing order of frequency were profuse foul smelling otorrhoea (19/20), severe otalgia/temporal headache (17/20), fever (8/20), altered sensorium (5/20), vertigo (5/20) and acute onset facial palsy (3/20). Intracranial complications were observed in 9 patients, with ipsilateral temporal lobe abscess being most common (6/20), followed by lateral sinus thrombosis, pyogenic meningitis and petrositis. 14/20 patients exhibited profound hearing loss on the involved side. The average duration of discharge was 5 years. Cholesteatoma extension medial to labyrinth with complete involvement of petrous apex and internal auditory canal was observed in one case. Most common identifiable pathologies observed were postero-superior

and epitympanic retraction pockets. Computed tomography provided adequate disease assessment, intra-operative correlation and cost effectiveness. All cases of facial nerve involvement had co-existing labyrinthine destruction with cochlear and semicircular canal fistulas in 3 and 4 cases respectively. Lateral semicircular canal was the most frequently eroded portion of inner ear (10 cases). Management of intracranial complications preceded definitive surgical management. All patients underwent canal wall down mastoidectomy with or without partial labyrinthectomy except petrous apical cholesteatoma where subtotal petrosectomy (transotic) with blind sac closure was performed. Gross infiltration of facial nerve was observed in one case whereas 8 cases exhibited gross dehiscence of fallopian canal, most commonly of the tympanic segment. Intra-operative macroscopic disease clearance was complete in all cases. Two mortalities occurred in patients with intracranial complications with one caused by unrelated co-morbidities. Intra-operative and post-operative course was uncomplicated in all other patients except a single case of wound dehiscence. All patients continue to be in follow up with maximum and minimum follow-up being 2 years and 6 months respectively and remain free of disease.

### Conclusions

Extensive intra-temporal cholesteatomas and intracranial complications caused by them continue to pose a challenge in the management of otitis media in the current era and merit early recognition, surgical management and follow-up. Simultaneous or early definitive surgical management of cholesteatoma in the form of mastoidectomy is recommended along with neurosurgical brain abscess drainage.