

**Table S1** Summary of clinical, radiological, and surgical findings of patients diagnosed with mastoiditis

Patient age (years), gender	Scan	Clinical presentation	Scan findings	Surgical management and findings	Microbiology
4, F	CT-PTB	Acute R otalgia and otorrhoea with auricular proptosis and boggy mastoid swelling Previous complex AOM	Mastoiditis and subperiosteal abscess, with opacification of epitympanum, mesotympanum, and EAC	Emergency myringotomy + grommet insertion + Drainage of abscess Posterior cartilaginous EAC defect communicating with mastoid cavity and abscess	MSSA
25, M	CT-PTB, MRI-B	Septic with first presentation of severe diabetic ketoacidosis, with otalgia and otorrhea	Locoregional fat stranding, blunting of scutum and ossicular chain with soft tissue in Prussak's space and sinus tympani	Emergency cortical mastoidectomy + myringotomy Mastoid cavity filled with purulent material. No cholesteatoma visualised	MRSA
32, F	CT-PTB	Acute-on-chronic L otorrhoea and otalgia Known CSOM	Middle ear opacification extending into petrous apex. Destruction of roof, medial, and lateral walls of middle ear cavity extending intracranial and into left sigmoid sinus	Conservative management Elective cortical mastoidectomy showed tegmen erosion and granulation tissue, especially over left sigmoid sinus Biopsy showed Langerhans cell histiocytosis	MSSA
33, F	CT-PTB	Acute R otalgia and otorrhoea with auricular proptosis, tender mastoid, and Bezold abscess	Cortical erosion of the roof and posterior walls	Conservative management with IV antibiotics due to pregnancy	Group A streptococcus
35, M	CT-PTB, MRI-B	Acute-on-chronic R otalgia, otorrhoea, and headache with first presentation seizures	Otogenic meningitis and temporal lobe abscess with mass effect with dural and meningeal enhancement along floor of MCF Dehiscence of tegmen tympani	Emergency myringotomy + grommet insertion + cortical mastoidectomy Emergency craniotomy + drainage of abscess Purulent material and granulation tissue in mastoid antrum and attic Elective canal-wall down mastoidectomy for new diagnosis of cholesteatoma	<i>Pseudomonas otitidis</i> <i>Bacteroides ovatus</i> <i>Actinomyces turicensis</i>
38, M	CT-B, MRI-B	Acute otalgia, otorrhoea, vertigo, hearing loss, and pulsatile tinnitus with no previous otologic history	Epitympanic opacification with blunting of scutum Foci of restricted diffusion and DWI hyperintensity Retracted tympanic membrane	Emergency modified radical mastoidectomy Frank pus in mastoid antrum, extensive cholesteatoma in attic/protympanum with ossicular erosion and LSCC fistula	Nil
46, M	MRI-B	Acute-on-chronic otalgia, otorrhoea	Bony erosion along external auditory canal	Conservative management with IV antibiotics	Group C streptococcus
50, M	CT-B, MRI-B	Septic with delirium, headache, otalgia, and otorrhoea. Mastoid was non-tender	Otogenic meningitis with hydropneumocephalus and ventriculitis Erosion of floor of MCF	Emergency cortical mastoidectomy and EVD insertion Pus and granulation tissue in mastoid cavity with significant bony erosion	<i>Streptococcus pneumoniae</i>
51, M	CT-PTB	Occipital headache, otalgia, otorrhoea, and tender mastoid secondary to new diagnosis of infected attic cholesteatoma with TM perforation	Bony erosion of sigmoid plate and medial wall of mastoid process, extending towards sigmoid sinus without venous thrombosis Erosion of scutum and ossicles	Conservative management with IV antibiotics Elective modified radical mastoidectomy for new diagnosis of cholesteatoma	Nil
57, M	CT-PTB, MRI-B	Septic with otalgia, otorrhoea, conductive hearing loss, vertigo, and meningism Neisseria meningitidis meningitis	Erosion of scutum, ossicles, tegmen tympani, and sigmoid plate	Emergency myringotomy and grommet insertion	Nil
61, M	CT-B, MRI-B	Severe vertigo with chronic otalgia and sudden loss of consciousness requiring intubation	Extensive ossicular and tegmen erosion. Mastoid collection breaching through tegmen into MCF Otogenic meningitis and hydrocephalus with dural enhancement Brainstem compression and tonsillar herniation from posterior fossa subdural empyema	Emergency cortical mastoidectomy + decompression of subdural empyema + EVD insertion New diagnosis of extensive cholesteatoma, with pyocoele within mastoid antrum Erosion of ossicular chain and tympanic segment of facial canal	<i>Pseudomonas aeruginosa</i>
65, M	CT-B, MRI-B	Sepsis with headache, meningism, delirium, and acute otalgia	Otogenic meningitis and ventriculitis with dural enhancement Erosion of tegmen tympani	Emergency cortical mastoidectomy + myringotomy + grommet insertion Pus in middle ear cavity and mastoid	<i>Streptococcus pneumoniae</i>
77, M	CT-B, MRI-B	Sepsis with headache, delirium, meningism, and bulging erythematous eardrum	Tegmen tympani erosion Otogenic meningitis	Emergency myringotomy + grommet insertion. No cholesteatoma	<i>Streptococcus pneumoniae</i>
81, M	CT-PNS, MRI-B	Facial pain, confusion, and retroorbital headache, on background of CSOM with petrous osteomyelitis	Erosion of tegmen tympani and ipsilateral sigmoid sinus thrombosis	Emergency cortical mastoidectomy + myringotomy + grommet insertion Infected mastoid cavity with granulation tissue	Nil

AOM, acute otitis media; CT-B, computed tomography-brain; CT-PTB, computed tomography-petrous temporal bones; CSOM, chronic suppurative otitis media; DWI, diffusion weighted imaging; EAC, external auditory canal; EVD, external ventricular drain; IV, intravenous; L, left; LSCC, lateral semicircular canal; MRI-B, magnetic resonance imaging-brain; MCF, middle cranial fossa; MRSA, methicillin-resistant *Staphylococcus aureus*; MSSA, methicillin-susceptible *Staphylococcus aureus*; R, right; TM, tympanic membrane.