

Retrospective cohort—demographic, clinical, radiological characteristics of patients with false positive diffusion weighted magnetic resonance imaging for cholesteatoma

Author/year/n	Age	Sex	Key otological symptoms	Previous otological history or surgery	Clinical exam findings	Audiogram (CHL/SNHL/Mixed HL)	CT findings - Ossicles	CT findings - opacification	CT findings - location of opacification	Reason for MRI	MRI machine/Technique	MRI DWI Focus size (mm)	DWI MRI Location	Key factor to proceed with surgery	Histology/Surgical finding
Esmaili <i>et al.</i> 2020 (n=11)	74	M	Hearing loss	Y – Mastoidectomy	TympS	Mixed HL	Intact	Present	Epitympanum	Hx/Ex/CT findings	1.5T Non-EPI	30	Epitympanum extending to attic	DWI MRI	Ceruminous adenoma
	39	F	Otalgia	N	RPii	SNHL	erosion	Present	Hypotympanum/Antrum/Mastoid	Hx/Ex/CT findings	1.5T Non-EPI (HASTE)	8.5	Left posterior epitympanum and aditus	Combination of CT/MRI/Clinical picture	Cholesterol granuloma
	54	F	Hearing loss	Y – Bilateral MRM +BSC	Blind sac	Maximal CHL	Excised	Blind sac	–	History	1.5T Non-EPI	8	Mastoid cavity	DWI MRI	Cholesterol granuloma
	6	M	Asymptomatic	Y – MRM	Mast. cavity	CHL	–	–	–	Hx/Exam	3T Non-EPI (HASTE)	20	Left middle ear and mastoid	DWI MRI	No sample
	42	M	Asymptomatic	Y – atticotomy	TympS	CHL	–	–	–	Exam	1.5T Non-EPI	5	Epitympanic recess	DWI MRI	Granulation tissue with fibrosis
	41	F	Otorrhoea	N	Perf	Mixed HL	Intact	Present	Epitympanum	Hx/Exam/CT findings	3T Non-EPI (HASTE)	punctate	Mastoid	DWI MRI	cholesterol granuloma
	82	M	Asymptomatic	Y – MRM	Mast. Cavity	Mixed HL	–	–	–	Hx/Ex	1.5T Non-EPI (HASTE)	6	Mastoid portion of facial nerve	Combination of clinic picture/MRI	minor non-specific inflammation
	60	F	Otorrhoea	Y – Myringoplasty	RPi	SNHL	Intact	Present	Attic	Hx/Ex/CT	3T Non-EPI (HASTE)	5	Epitympanum, aditus and antrum	Combination of CT/MRI	Chronic inflammation
	62	M	Tinnitus/fullness	Y – MRM	Mast. cavity	CHL	Intact stapes post MRM	Present	Lateral to super semicircular canal and arcuate eminence	Hx/Ex/CT findings	3T Non-EPI	10	Lateral to Superior semicircular canal	DWI MRI	Cholesterol granuloma
	67	F	Asymptomatic	Y – translabyrinthine procedure	Blind Sac	SNHL	–	Present	Anterior superior epitympanum	Surveillance	3T Non-EPI	7.5	Anterior superior epitympanum	DWI MRI	Cholesterol granuloma
	65	F	Unsteadiness	N	RPiv	Mixed HL	Subtle erosion of incus	Present	Mesotympanum, antrum	Hx/Ex/CT findings	3T Non-EPI (HASTE)	3	Anterior mesotympanum	Combination of CT/MRI	No sample

n, number; M, Male; F, Female; Y, Yes; N, No; TympS, Tympanosclerosis; RP i-iv, Retraction pocket grade 1 to 4; Mast. Cavity, Mastoid cavity; perf, perforation; Mixed HL, mixed hearing loss; SNHL, Sensorineural hearing loss; CHL, conductive hearing loss; MRM, modified radical mastoidectomy; BSC, blind sac closure; Hx, History; Ex, Examination; CT, Computed tomography; MRI, Magnetic resonance imaging; Non-EPI, Non-Echo-Planar; DWI, Diffusion weighted imaging; HASTE, Half Fourier Single-Shot Turbo spin; 1.5T, 1.5 Tesla Magnetic resonance imaging; 3T, 3 Tesla Magnetic resonance imaging.