Otoscopy for Medical Student OSCE

Introduce, identify, explain, consent. Assessing hearing – rustling test, Weber’s test, Rinne’s test Otoscopy ‘I need to look inside your ears using an otoscope, which is a torchlight with a magnifying glass. It will not hurt but may feel uncomfortable.’ Check for hearing aids, remove first Right hand to examine right ear. Good ear first. Inspect external ear structures Scars Skin tags Sinuses Abscesses (including behind pinna) External ear canal – eczma or discharges (cheesy smell – cholesteatoma; purulent – otitis media; sanguineous – trauma; watery – CSF) Warn before inserting. Pull pinna upwards and backwards Inspect canal – inflammation, foreign bodies, debris (otitis media) Tympanic membrane Membrane – absent, intact, perforated (suggested by visible blood vessels in middle ear mucosa). Grommet: anterior inferior quadrant Colour – pearly grey (normal); gold/blue (fluid in middle ear); white (tympanosclerosis – scarring) Shape – bulging (otitis media) / normal concave Light reflex – absent in perforation Surrounding structures in middle ear Malleus – from centre (umbo), anterior and posterior Pars tensa – below malleus Pars flaccida – above malleus Attic – in pars flaccida – early cholesteatoma Other side Request full ENT examination, including nose and throat Differential diagnosis Hearing loss Conductive – external canal blocked by wax / discharge / foreign body; middle ear perforated due to trauma / infection; conduction to stapes impaired by otosclerosis / trauma Sensorineural – damage to neural receptors of inner ear (hair cells) / nerve pathways to brain / auditory cortex Otitis Media Acute – distorted drum, prominent blood vessels, bulging of upper half of drum, handle of malleus obscured. There can be effusion, with fluid level visible behind the eardrum. Alternatively there can be purulent fluid behind the tympanic membrane. Tympanic membrane can become tense and indrawn, with risk of perforation Serous (secretory) – effusion visible through eardrum, with meniscus Tympanosclerosis – due to incomplete healing after otitis media, causing scar tissue – calcified white plaques on tympanic membrane Acoustic neuroma – benign tumour of Schwann cells surrounding auditory nerve, in middle ear. Associated with neurofibromatosis, peak incidence ages 30-50. Dizziness, hearing loss, tinnitus. Tumour may extend to cause weakness and facial pain, by pressing on other nerves e.g. chorda tympani, CN 5, 6,7 Otosclerosis – degenerative bone disease, usually bilateral. 60% with family history. 2:1 more in females, worse in pregnancy. Gradual low-pitch hearing loss, dizziness, tinnitus Grommets – tubes in eardrum to aid ventilation of middle ear. For glue ear mainly. Maintain atmospheric pressure in middle ear, if eustachian tube malfunctioning. Presbyacusis – senile deafness. Progressive sensorineural hearing loss, bilateral and symmetrical, common after 60 yrs. Degeneration and loss of cochlear hair cells. High-frequency hearing loss muffles speech

About the Author