#4th_Year_MBBS #ENT #EAR_Diagnostic_Points

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- *External Ear* :

1. Anotia = form part of first arch syndrome.

2. Microtia = commonly associated with atresia of external auditory canal (peanut ear)

3. Bat ear = deformity can be surgically corrected after 6 years of age.

4. Cup ear or lop ear = due to hypoplasia of upper third of auricle (cockle shell ear or snail shell ear deformity)

5. Cryptotia = upper third of auricle is embedded under scalp skin (pocket ear)

6. Coloboma = transverse cleft in pinna

7. Darwin's tubercle = pointed tubercle on upper part of helix, represents as apex of pinna of lower animals.

8. Stahl's ear = duplicated folds of upper crus of antihelix, can be corrected by a mould in 1st 6 weeks of life.

9. Preauricular sinus = formed due to incomplete fusion of tubercles, surgical excision if repeatedly infected.

10. Most common cause of hematoma of auricle = blunt trauma seen in boxers, wrestlers or rugby players.

11. Complications of hematoma of auricle = cauliflower ear, severe perichondritis.

12. During treatment of laceration of auricle, special care is to prevent stripping of

perichondrium from cartilage (high risk of avascular necrosis)

13. most common cause of keloid of auricle = piercing ear for ornaments, (most commin sites : lobule or helix), for prevention of recurrence (preoperative & postoperative 600-800 radiations divided in 4 doses)

14. Perichondritis = secondary to laceration, hematoma or surgical incision, most common pathogen (pseudomonas), if abscess formed (avascular necrosis of cartilage may occur)

15. Relapsing polychondritis = autoimmune disorder, affect cartilage of ear & septal, laryngeal, tracheal, costal cartilages may also involve.

16. Chondrodermatitis nodularis chronica helicis = small painful tender nodules appear near free border of helix in men age of 50 years, patient unable to sleep on affected side.

17. Atresia of external auditory canal = most commonly associated with microtia, but if occurs alone > due to failure of canalization of ectodermal core that fills the dorsal part of first branchial cleft.

18. Collaural fistula = due to abnormality in 1st branchial cleft, fistula has 2 openings (one in neck just below & behind the angle of mandible & other one in the external auditory canal or middle ear), this fistula traverse through parotid gland so in close relation with facial nerve.

19. Minor lacerations of ear canal result from Q-tip injury (scratching ear with pins, matchstuck etc), heal spontaneously without complication.

20. Complication of Major lacerations of ear canal = stenosis

21. Acute localized otitis externa (Furuncle) = caused by staphylococcus aureus (confined only in outer/cartilaginous part of meatus), painful movement of pinna.

22. Diffuse otitis externa = diffuse inflammation of meatal skin, spread to involve pinna & epidermal layer of tympanic membrane, commonly seen in swimmers, common pathogen (staphylococcus aureus), In acute phase (burning sensation in ear, pain aggravated by movement of jaw, purulent dicharge, conductive hearing loss), in chronic phase (irritation & strong desise to itch, scanty discharge, crusts formation).

23. Otomycosis = fungal infection of ear, clinical features (intense itching, pain, watery discharge with musty odour & ear blockage, fungal mass in ear canal)

If caused by Aspergillus niger = black headed filamentous growth.

If caused by Aspergillus fumigatus = pale blue or green growth.

If caused by candida = white or creamy diposit.

24. Otitis externa hemorrhagica = formation of hemorrhagic bullae on tympanic membrane & deep meatus, viral in origin (Influenza), severe pain & blood-stained discharge.

25. Herpes zoster oticus = formation of vesicles on tympanic membrane, meatal skin, concha, postauricular groove (7th & 8th cranial nerve involvement).

26. Malignant (necrotizing) otitis externa = caused by pseudomonas, usually affect diabetic & immunocompromised patients, (granulation in ear canal), diagnosis by CT Scan, gallium 67 & technetium 99 bone scan.

27. Eczematous otitis externa = due to hypersensitivity from infective organism or

topical ear drops (chloromycetin or neomycin), marked by intense irritation, vesicle formation, oozing & crusting.

28. Seborrhoeic otitis externa = associated with seborrhoeic dermatitis of scalp, main complaint (itching), green yellow scales in canal.

29. Neurodermatitis = caused by compulsive scratching due to psychological factors, main complaint (intense itching).

30. Primary cholesteatoma of auditory canal = invasion of squamous epithelium in bone of auditory canal, may be post-traumatic or postsurgerical, clinical features (purulent otorrhea, pain), granulation associated with sequestrated bone.

31. Wax composed of secretions of sebaceous glands, ceruminous glands, hair, desquamated epithelium debris, keratin & dirt.

32. Nonliving foreign bodies of ear = piece of paper, sponge, grain seeds, slate pencil, piece of chalk, metallic ball bearing, broken end of matchstick.

33. Living foreign bodies of ear = flying or crawling insects (first, insect should be killed by instilling oil, spirit or chloroform water

then removed by forceps, syringing, suction, microscopic removal with special instruments or postaural approach)

34. Maggots in ear = severe pain with swelling round the ear & blood stained watery discharge.

35. Keratosis obturans = collection of pearly white mass of desquamated epithelium in deep meatus then by its pressure effect, it causes absorption of bone leading to widening of meatus so the facial nerve may be exposed & paralyzed, commonly seend b/w 5-20 years, associated with bronchiectiasis & chronic sinusitis (it occurs due to failure of migration of epithelium from surface of tympanic membrane to posterior meatal wall)

36. Treatment for acquired atresia & stenosis of meatus = meatoplasty.

37. Causes of blockage of eustachian tube = upper respiratory tract infection, allergy, sinusitis, nasal polyps, DNS, Hypertrophic adenoids, nasopharyngeal tumour, cleft palate, submucous cleft palate, down syndrome, functional.

MIDDLE EAR

38. Middle ear cleft = eustachian tube, middle ear, attic, aditus, antrum, mastoid air cells.

39. Acute suppurative otitis media = common age group (infants & children), common pathogen (streptococcus pneumonia), common route (via eustachian tube), early symptoms (deafness, earache),

5 stages :

- stage of tubal occlusion (symptoms : deafness, earache)

*- stage of presuppuration (*Cart-wheel appearance*, symptoms : marked earache, deafness, tinnitis)*

- stage of suppuration (tympanic membrane bulging, loss of landmarks, nipple like protrusion)

- stage of resolution (symptoms subside)

- stage of complication (extractanial : mastoiditis, subperiosteal abscess, facial paralysis, labyrinthitis, petrositis..

Intracranial : extradural abscess, meningitis, brain abscess, lateral sinus thrombophlebitis)

40. Indications for myringotomy = drum is bulging & acute pain, incomplete resolution, persistent conductive deafness, persistent effusion beyond 12 weeks.

41. Acute necrotizing otitis media = seen in children suffering from measles, scarlet fever or influenza. Causative organism (beta-hemolytic streptococcus), profuse otorrhea, result in secondary acquired cholesteatoma.

42. Serous otitis media (secretory otitis media with effusion or glue ear) = accumulation of nonpurulent effusion in middle ear cleft, common in school going children (5-8 years of age), cause (blockage of eustachian tube), most commin symptom (hearing loss rarely exceed 40dB), signs (dull opaque yellow, grey or bluish retracted tympanic membrane with loss of light reflec, air bubbles may be seen), x-ray of mastoid shows clouding or air cells due to fluid.

43. Surgical Treament of serous otitis media = myringotomy and aspiration of fluid (by beer-can principle) + grommet insertion (to aerate the middle ear).

44. Complications of serous otitis media = atrophic tympanic membrane & atelactasis of middle ear, ossicular necrosis (most commonly long process of incus & stapes superstructure), tympanosclerosis, retraction pockets & cholesteatoma, colesterol granuloma.

45. Recurrent acute otitis media common in infants & children between the age of 6 months & 6 years due to recurrent upper respiratory tract infections (4-5 times in a year).

*46. If child has 4 bouts of acute otitis media in 6 months or 6 bouts in 1 year then *insertion of tymoanostomy tube is recommended*.*

47. Aero-otitis media (Ottic barotrauma) = nonsuppurative, result from failure of eustachian tube to maintain ear pressure at ambient atmospheric level, cause (rapid descent during air flight, underwater diving, compression in pressure chamber), common symptoms (severe earache, tinnitis, conductive & sensorineural hearing loss.) Treat by catheterization or politzerization.

48. Middle ear cleft is line by ciliated columnar epitheliun in anterior & inferior

part, cuboidal in middle part & pavement like in attic.

*49. cholesteatoma (epidermosis or keratoma) = " *skin in the wrong place* " , consist of 2 parts (matrix formed by keratinizing squamous epithelium & central white mass consist of keratin debris produced by matrix)*

50. Classification of cholesteatoma = congenital (arise from embryonic epidermal cell rests in middle ear cleft or temporal bone, it can occur in 3 differenr sites

"middle ear,

petrous apex,

cerebellopontine angle" ,

present as a white mass behind intact tympanic membrane & cause conductive hearing loss), Primary acquired (due to invagination of pars flaccida "attic perforation", basal cell hyperplasia of pars flaccida or squamous metaplasia of pavement epithelium), secondary acquired (due to pre-existing perforation in pars tensa like posterosuperior marginal perforation or large central perforation).

51. Cholesteatoma has the property to destroy ear ossicles, bony labyrinth, canal of

facial nerve, sinus plate, tegmen tympani by the action of collagenase, acid phosphatase, proteolytic enzymes.

52. Types of CSOM = Tubotympanic & atticoantral type.

*53. Tubotympanic type = safe or benign type, mucosal disease, involve anteroinferior part of middle ear cleft "eustachian tube & mesotympanum", most common aerobic pathogen "pseudomonas", assoicated with central perforation, profuse mucoid odourless discharge, mild to moderate conductive deafness, pale polyp, no risk of serious complication, classified into active (inflammation), inactive (permanent perforation), healed (adhesive), clinical features (mucopurulent discharge, conductive hearing loss "person hear better in presence of discharge than dry air *round window shielding effect*, in long standing cases hearing loss become mixed type.*

54. Atticoantral type = unsafe or dangerous type, squamosal disease, involve posterosuperior part of cleft (attic, antrum & mastoid), associated with attic or marginal perforation, often associated with cholesteatoma, granulations or osteitis, risk of complications is high, scanty & purulet

foul smelling discharge, red & fleshy polyp, conductive or mixed deafness, classified into inactive (retraction pockets in pars tensa "posteriosuperior region" or pars flaccida) & active (cholesteatoma with discharge), same pathogen as in tubotympanic type.

55. Complications of atticoantral type of CSOM = Extradural, perisinus or brain abscess (pain), erosion of lateral semicircular canal (vertigo), intracranical complications (persistent headache), erosion of facial canal (facial weakness), extradural abscess (listless child refuse to feel & easily go to sleep), intracranial infection (fever, nausea, vomiting), meningitis (irritability, neck rigidity), petrositis "Gardenigo syndrome" (diplopia), labrynthitis or cerebellar abscess (ataxia, vertigo), mastoiditis (abscess round the ear).

56. Surgical treatment of atticoantral type of CSOM = Canal wall down procedures (widely open meatus communicate with mastoid, safe procedure, low recurrence rate, swimming limitation can lead to infection of mastoid, operations are atticotomy, modified radical mastoidectomy & radical mastoidectomy.) or Canal wall up procedures (combined approach through meatus & mastoid but

retaining posteroir bony meatal wall intact, gives dry ear & permit easy reconstruction of hearing mechanism, high rate of recurrence due to danger of leaving some cholesteatoma behind, require second look surgery after 6 months, no limitation of swimming, easy to wearing a hearing aid, disease removed both permeatally & through cortical mastoidectomy & posterior tympanotomy approach "window created b/w mastoid & middle ear through facial recess") then hearing can be restored by mringoplasty or tympanoplasty (reconstructive surgery).

57. Stages of retraction pocket :

Stage 1 (retracted tympanic membrane but doesn't contact incus "mild")

Stage 2 (retracted deep & contact incus)

Stage 3 (middle ear atelactasis, tympanic membrane lie on promontory & ossicles, middle ear space obliterated)

Stage 4 (adhesive otitis media, tympanic membrane is very thin & wraps the promontory & ossicles, no middle ear space, mucosal lining is absent, pockets collect keratin plug & form cholesteatoma, erosion of long process of incus & stapes superstructure).

58. Tubercular otitis media = secondary to pulmonary TB, reach through eustachian tube, sometime from lymph nodes, mostly occur in children & young adult, tubercles appear in submucosal layers of middle ear cleft & caseate, painless necrosis of tympanic membrane, multiple perforations coalesce to form single large perforation, pale granulations, caries of bone & ossicles lead to complications, foul smelling painless ear discharge, severe hearing loss (mostly conductive), complications are mastoiditis, facial paralysis, postauricular fistula, osteomyelitis with formation of bony sequestra.

59. Syphilitic otitis media = spirochete reach middle ear through eustachian tube, sensory and organs of inner ear & nerves invaded by spirochete leading to profound sensorineural hearing loss, tinnitis & vertigo, bone necrosis & sequestrum are common lead to foetid ear discharge, diagnosis by treponemal pallidum immobilization (TPI), Fluorescent treponemal antibpdy absorption test (FTA-ABS).