OTITIS MEDIA /seromucinous/SUPPURATIVA CHRONICA AND ITS COMPLICATIONS

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2013 szakvizsgakötelező tanfolyam
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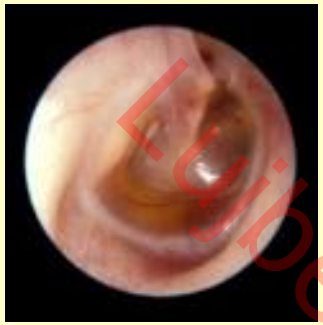
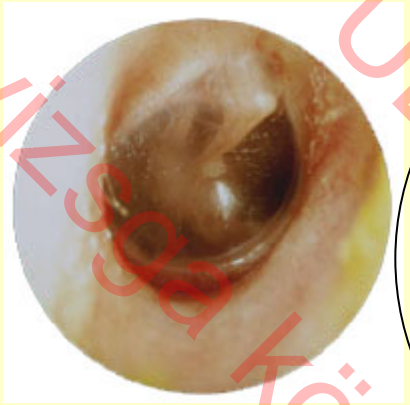
Lupoi László dr.a
szerző engedélyé

Seromucinous chronic otitis media

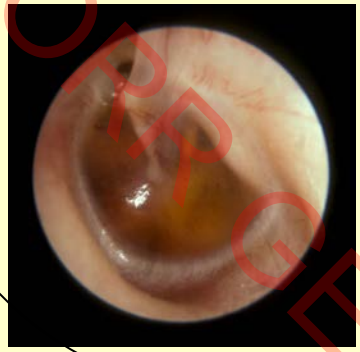
Acut serous



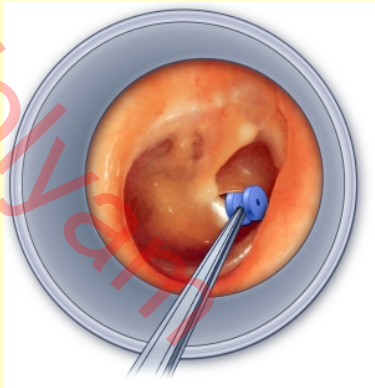


Normal TM

Chronic serous



- **Clinical features**: feeling of pressure, fullness, often following UAI, noises when yawning, swallowing, sneezing.
- **Diagnosis**: otoscopy
- **Diff.dg:** hemotympanum,COM
- **Treatment:** grommet



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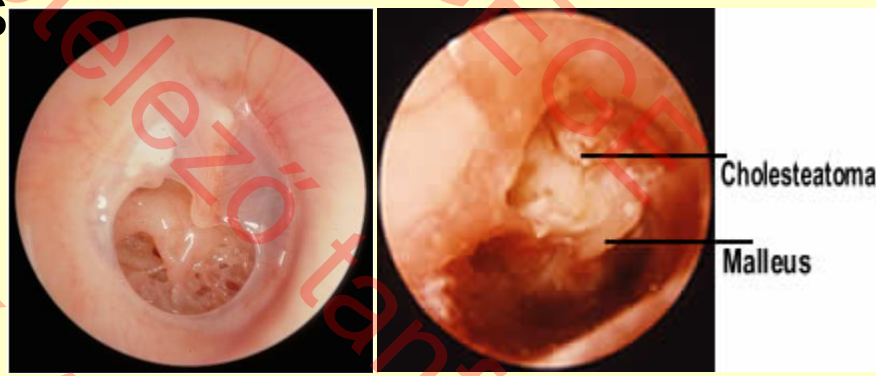
Lupper László és a szerző engedélyével

Chronic suppurative otitis media

- 3 yes and 1 no

- + Discharge (can be offensive)
- + Perforation
- + Conductive hearing loss
- NO PAIN !!!



2 basic forms:

- **Ot. med.supp. chron. mesotymp.**
  Some textbooks regard it as „safe”, not true
- **Ot. med. supp. chron. cholest.**
  (Pain or headache is always the sign of a complication)

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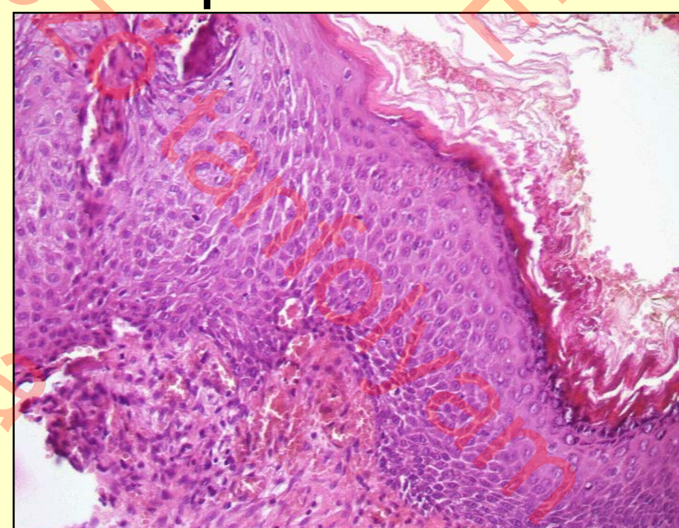
Elnöber László és a szerző engedélyével

Cholesteatoma – definition
(skin on the wrong place)

- presence of keratinizing squamous epithelium within the middle ear or in other pneumatized areas of temporal bone
- *matrix*
  - keratinizing stratified squamous epithelium
  - cuboid epithelium
- *perimatrix*
  - granulation tissue



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The origin of central perforation

- Necrosis (remnant of a spontaneous perf. during a previous ot. med. supp. ac.)
- Trauma
- Disrupted retraction pocket
- Myringitis granulosa affecting all layers

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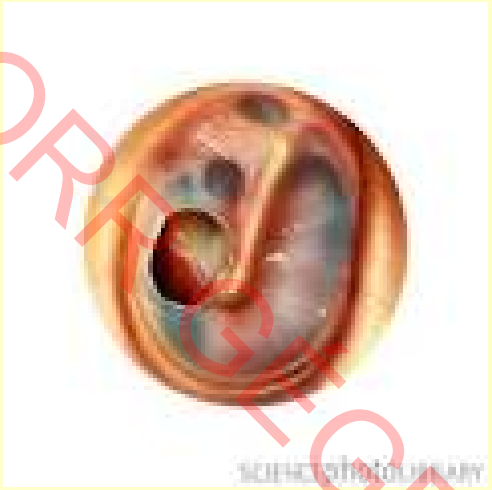
Diagnosis of the ot. med. supp. chron. mesotympanalis



- Usually causes no problem
- Tbc. cannot be differentiated on the basis of the clinical picture

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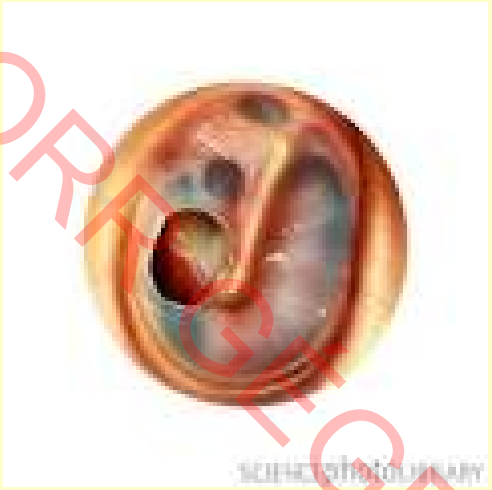
Diagnosis of the ot. med. supp. chron. mesotympanalis



- Usually causes no problem
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Treatment of ot. med. supp. chron. mesotympanalis

- Conservative local

  Not effective on the long run

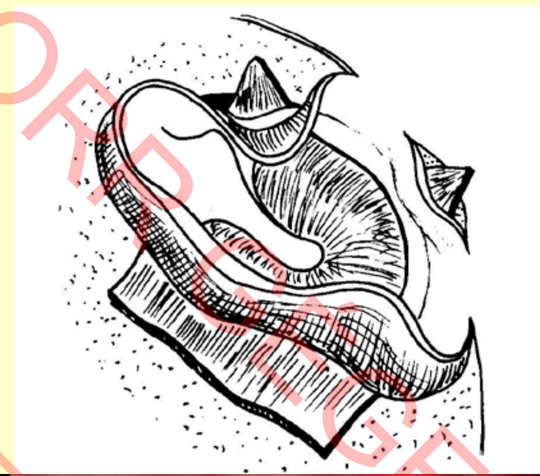
  Selection of resistant strains

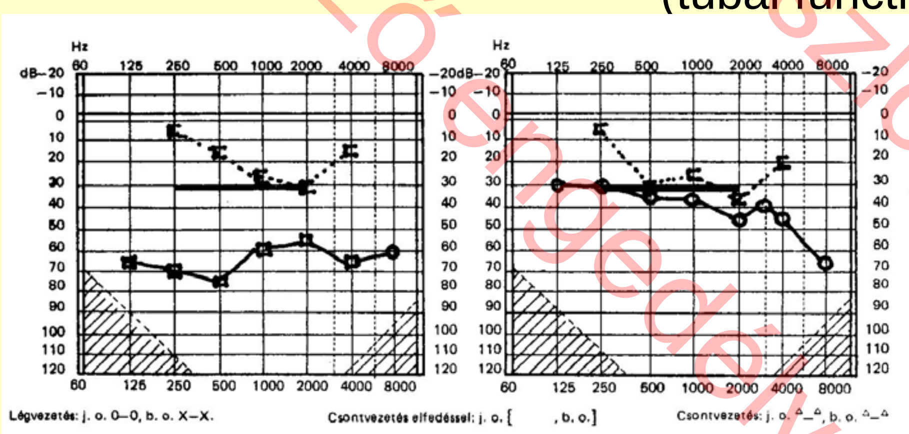
- Surgical

  Closure of the perforation:

  Tympanoplasty

  (tubal function!)





Ot. med. supp. chron. cholest.

(the term is not quite correct)

- Cholesteatoma: skin on the wrong place

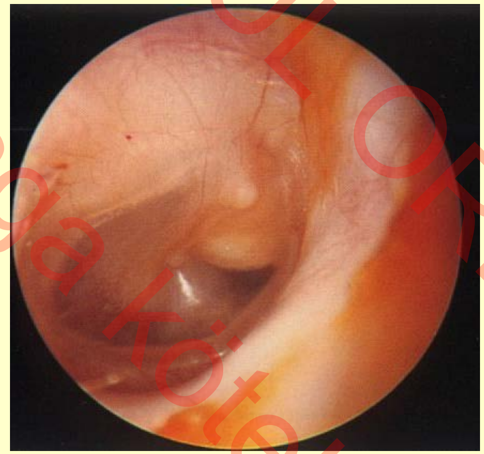
  (Gray, 1964)

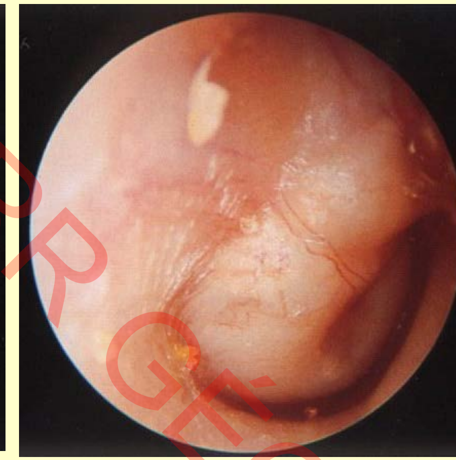
  (multilayer squamous epithelium in the middle ear cleft)
- Formation of a cyst. Accumulation of the continuously produced keratin. Pressure exerted on the surroundings: destructive, tumour-like behaviour
- Secondary infection (anaerobic conditions)

  (the term above does not valid for a non-infected cholesteatoma)
- Opening the way for the concomitant infection

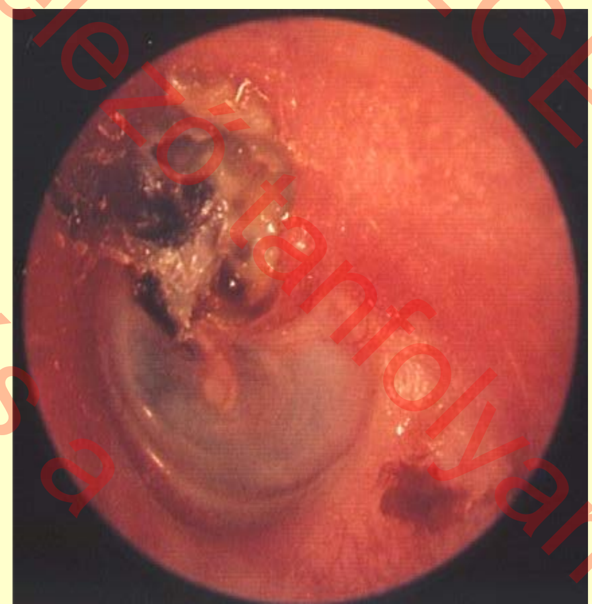
Tympanic membrane

- intact tympanic membrane





- tympanic membrane with defect



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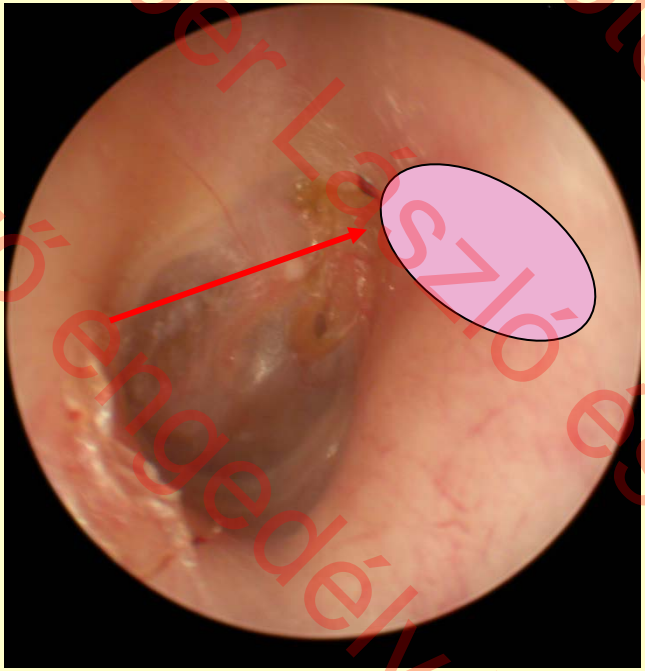
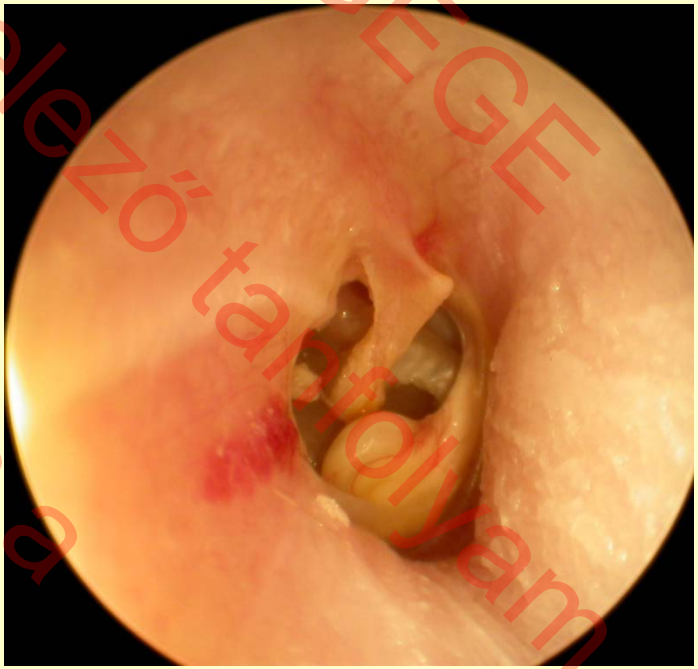
Perforation of tympanic membrane

- epitympanal
- mesotympanal
- mesoepitympanal





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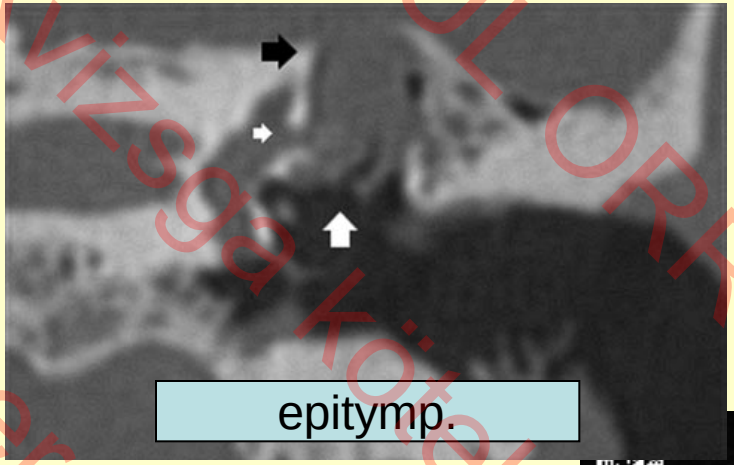
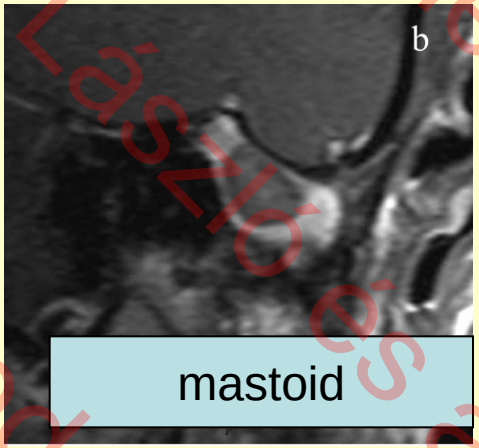
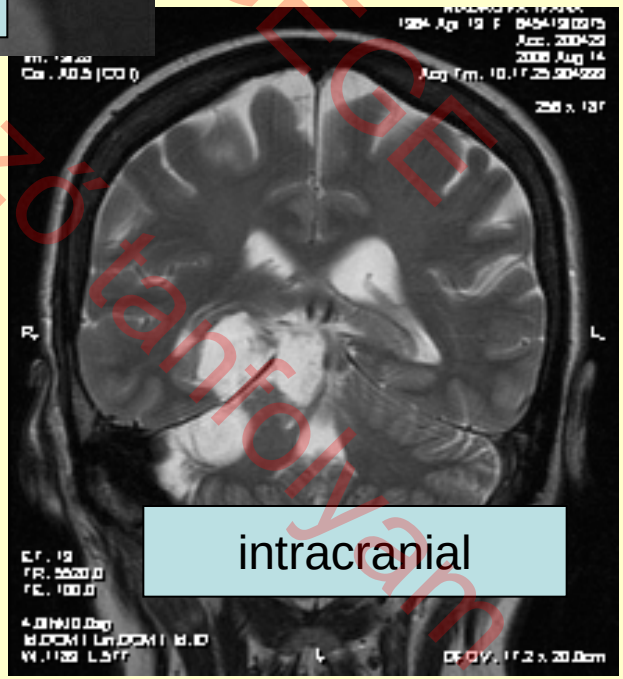
Anatomical localization

- epitympanal
- mesotympanal
- mastoid
- external canal
- apex pyramid
- intracranial (extrapyramidal)







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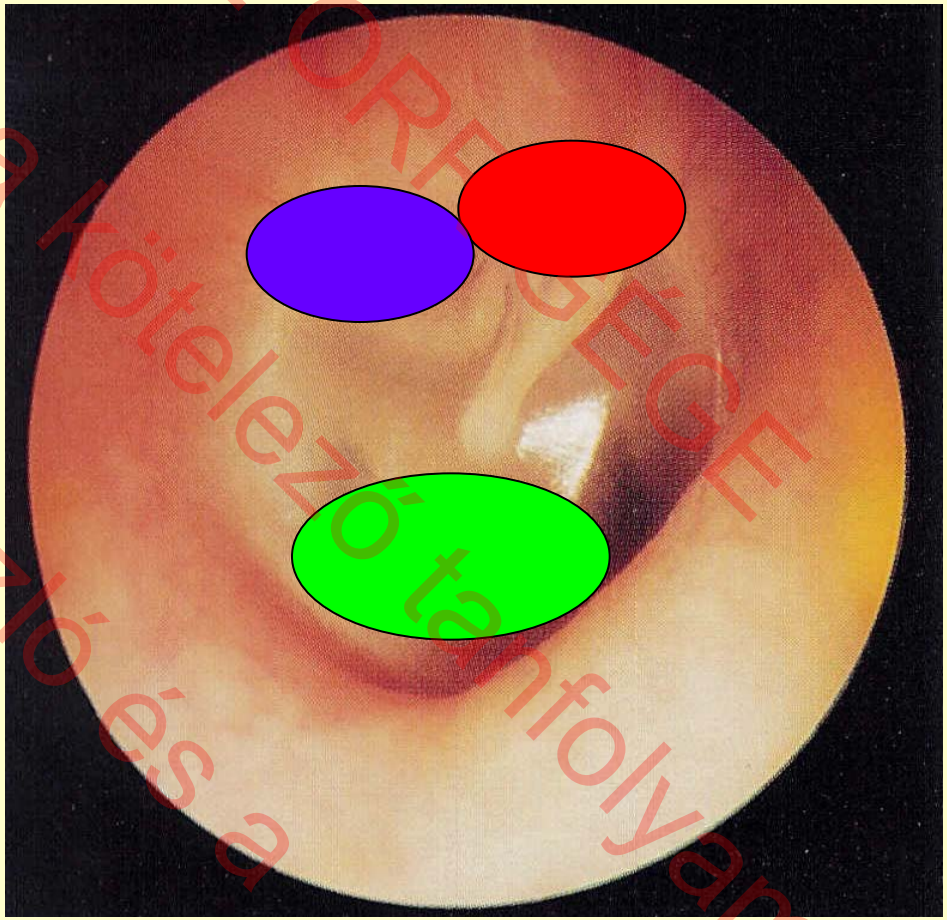
Retraction pocket by Tos

- attic (flaccida) cholesteatoma
  - retraction of Shrapnell´s membrane
- sinus cholesteatoma
  - posterosuperior retraction of pars tensa
- retraction tensa cholesteatoma
  - retraction and adhesion of entire pars tensa



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Lajber László és a
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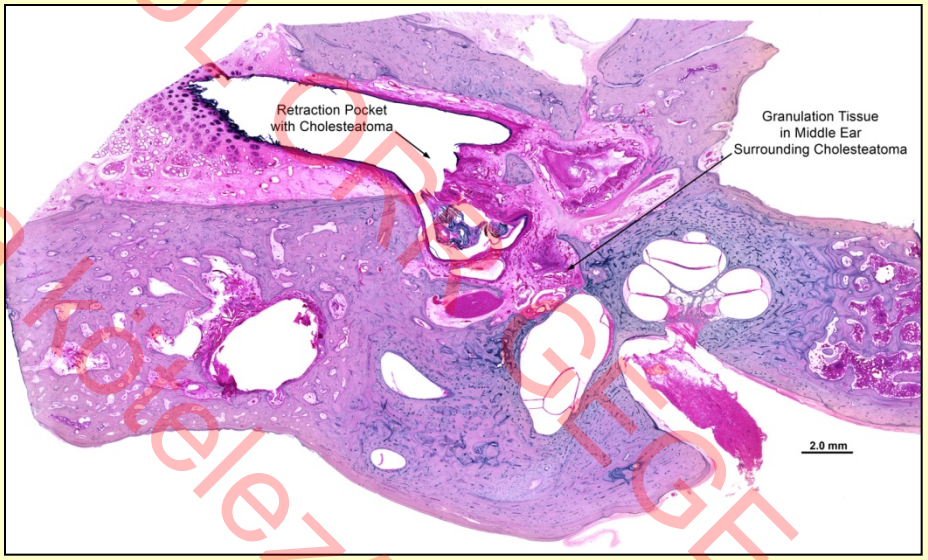
Classification

- histology
- appearance
- time of development
- anatomical localization
- tympanic membrane (intact or not)
- perforation of tympanic membrane (where it is?)
- retraction pocket
- other



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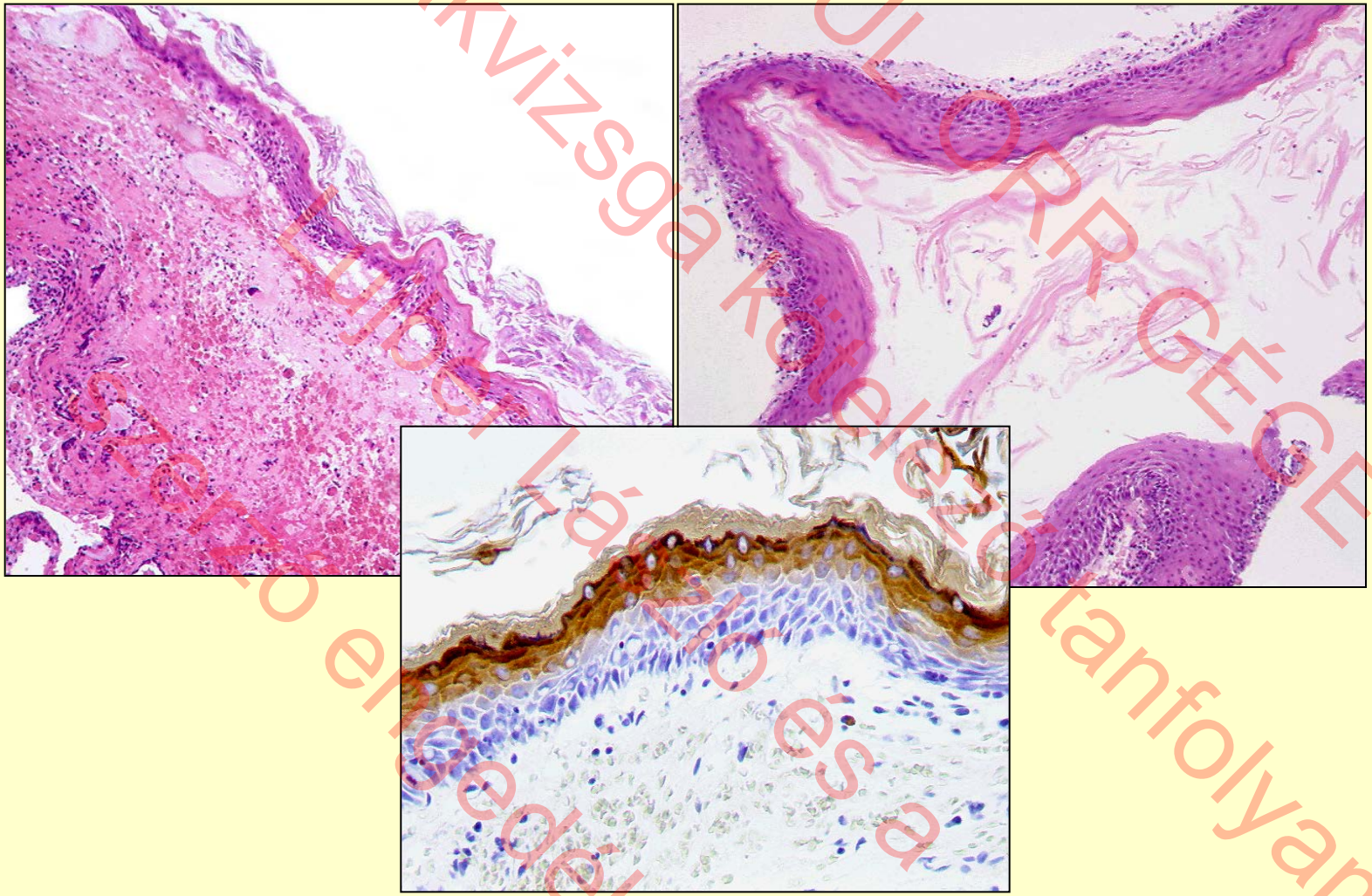
Histology
matrix, perimatrix



immuncytochemistry

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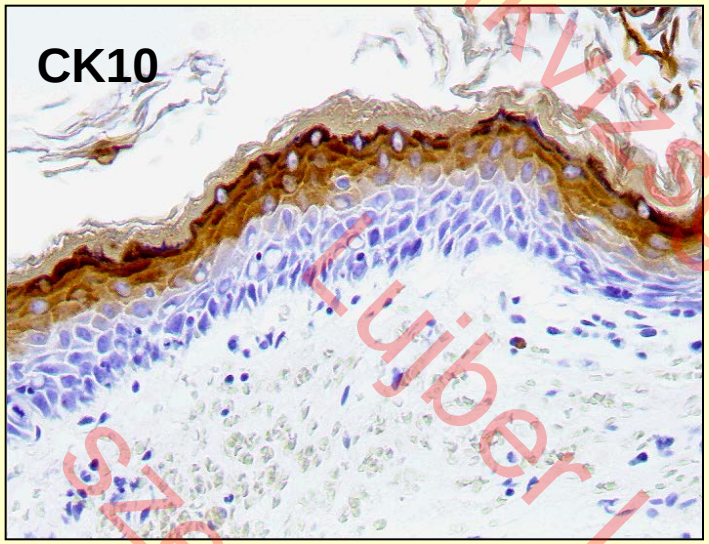
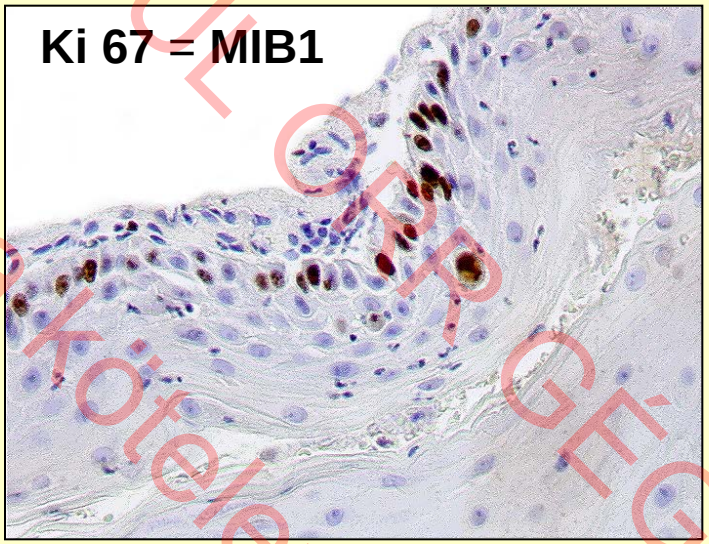
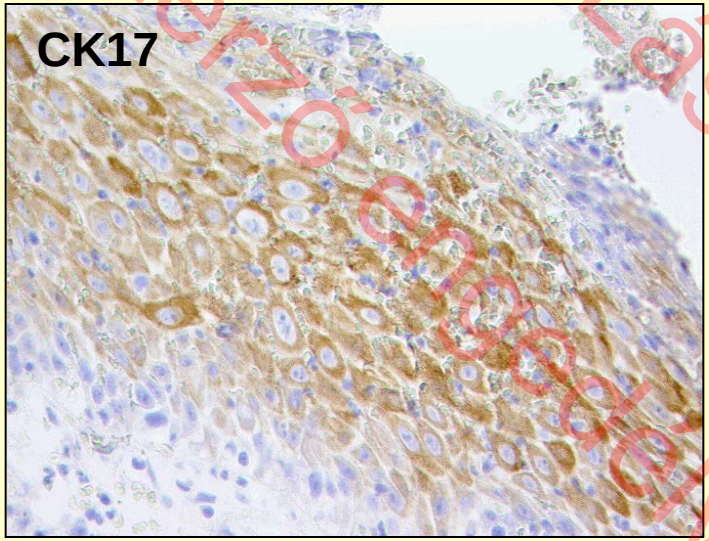
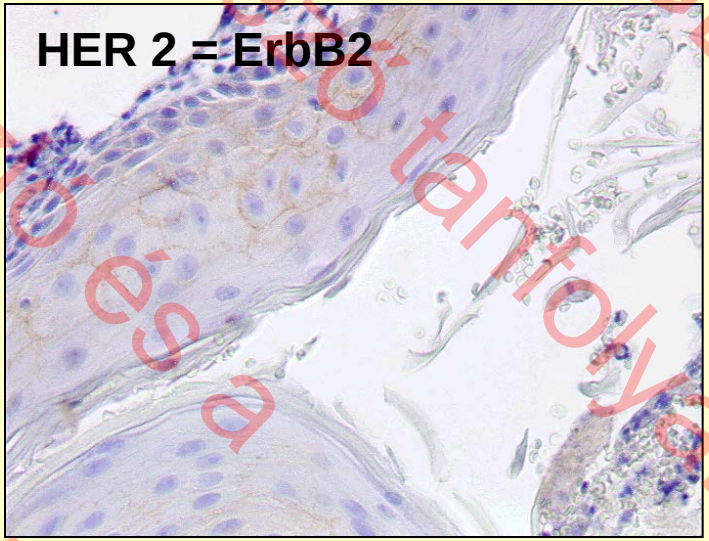
Immunocytochemical examination









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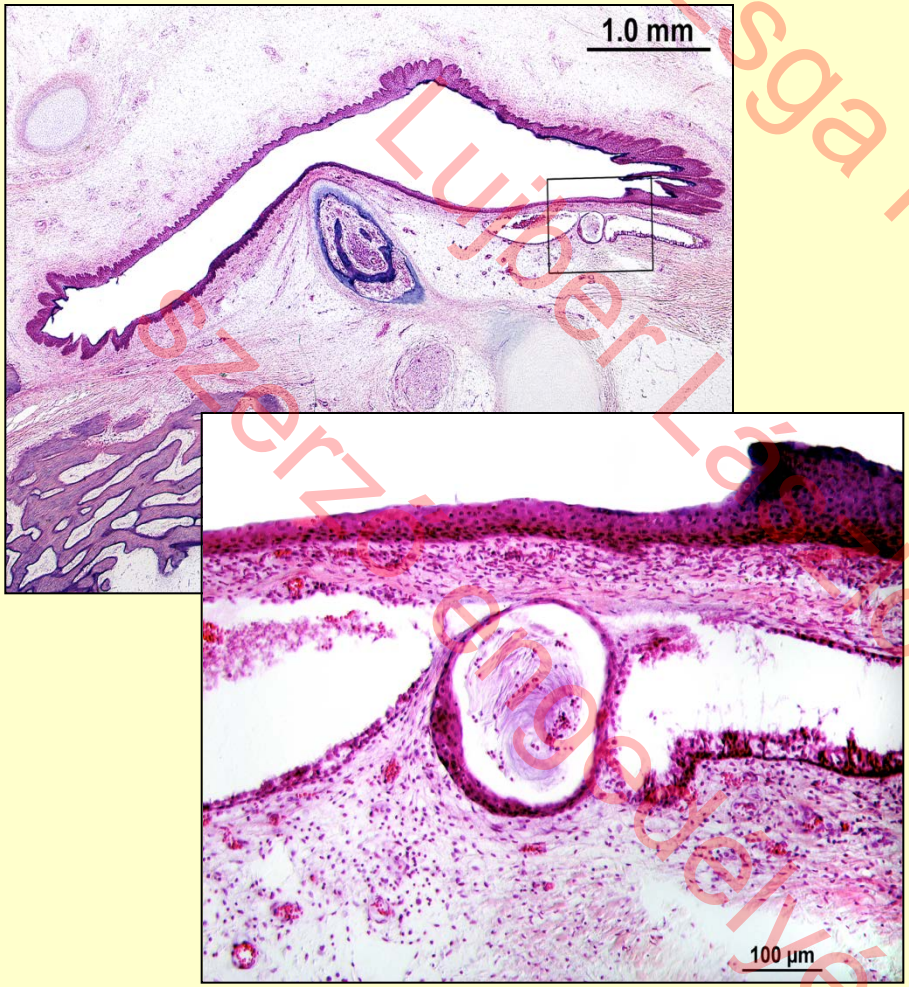
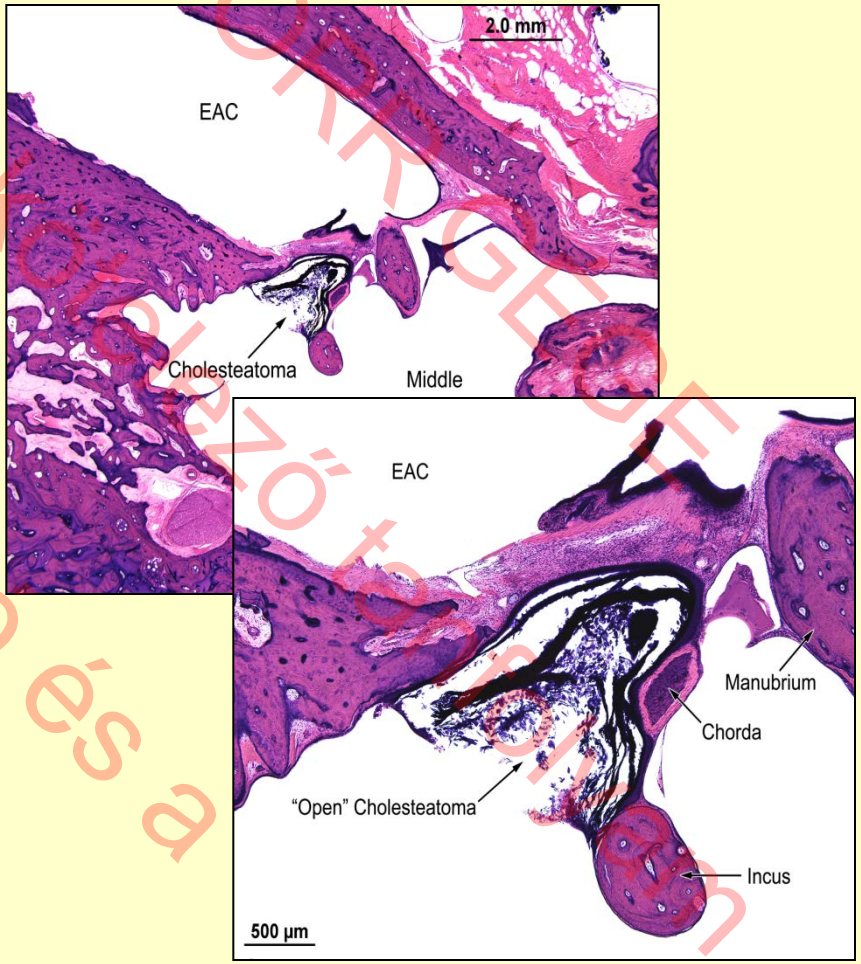
Appearance

- closed cholesteatoma

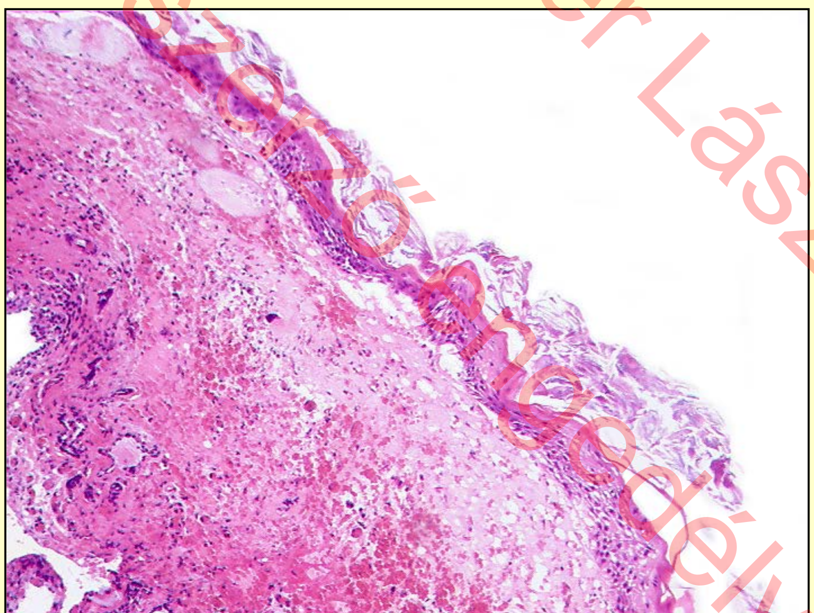


- open cholestatoma



Time of development

- congenital
- acquired
- children
- adults



more aggresive disease

- extensive disease
- higher rates of residual and recurrent cholesteatoma
- greater ossicular damage
- poorer hearing postoperatively

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Other

- intratympanic
  - in tympanic membrane
- postraumatic
  - temporal bone fracture
- iatrogenic
  - after surgical procedure
- residual
  - rests after incomplete surgical removal
- recurrent
  - new cholesteatoma (compromised eustachius function)
- retention cholesteatoma
  - accumulation of keratin in insufficiently exteriorized cavity

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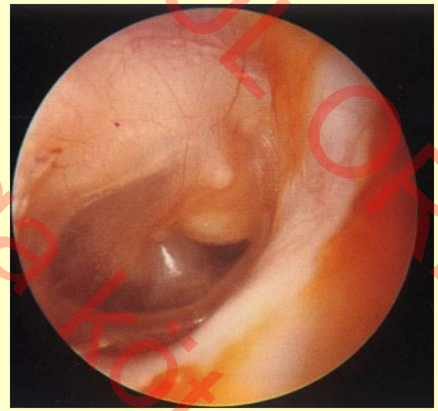
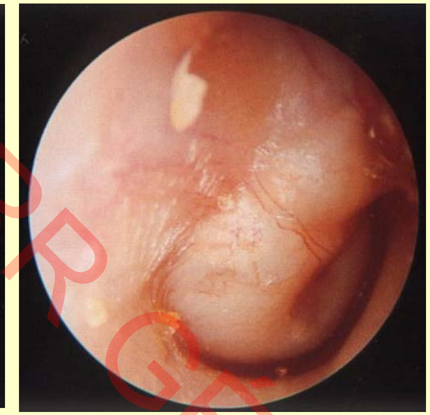
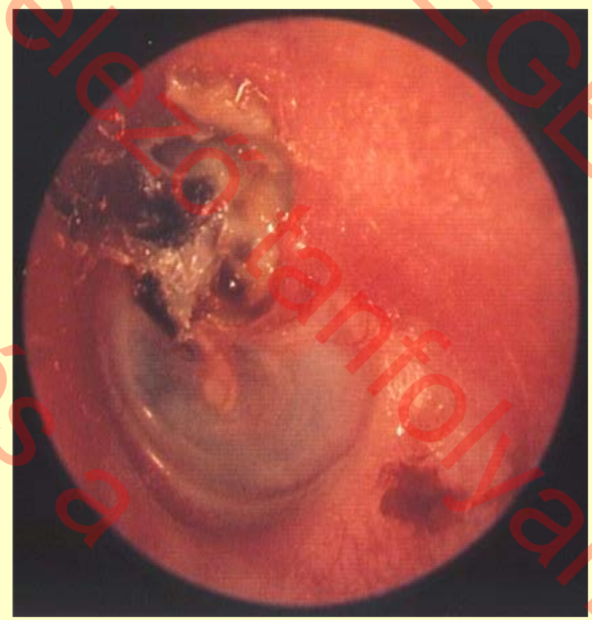
Etiopathogenis

- **intact tympanic membrane**
  - primary congenital
  - primary acquired
- **tympanic membrane with defect**
  - primary acquired (retraction pocket, papillary proliferation)
  - secondary acquired (perforation)







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Cholesteatoma behind intact tympanic membrane

CONGENITAL

- epidermoid formation (Michaels 1986)
- squamous epithelial cells of amniotic fluid (Piza, Northrop 1989)
- migration of ectodermal tissue (Aimi 1983)
- ectodermal implantation (Paparella, Rybak 1978)

ACQUIRED

- invasion of epidermal cells and proliferation (Rüedi 1959)
- metaplastic transformation of middle ear mucosa (Sadé 1977)
- inclusion cholesteatoma after retraction and adhesions of the eardrum (Tos 2000)

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Dr. Huber László előadása
Szerző engedélyével

Cholesteatoma behind intact tympanic membrane

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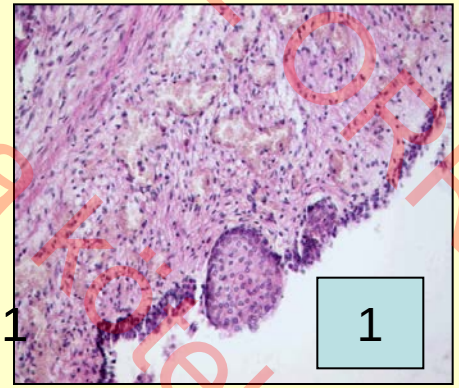

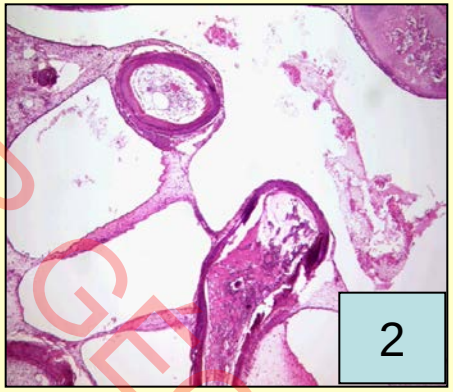

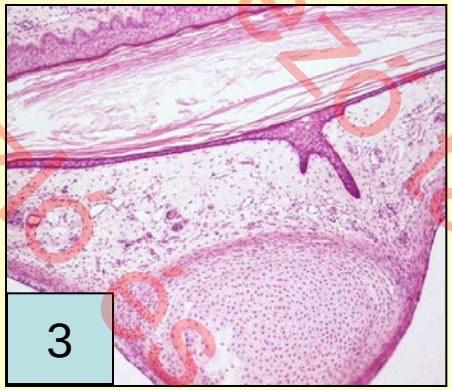

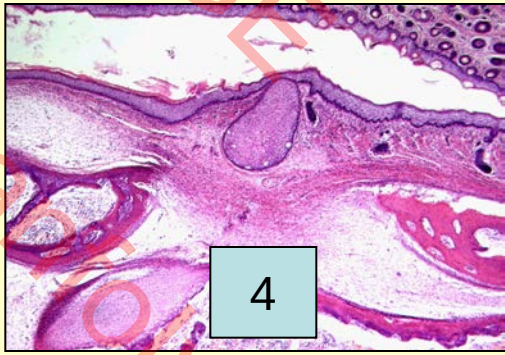

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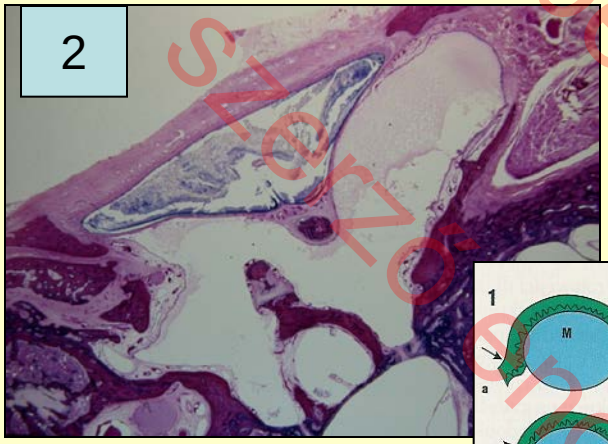
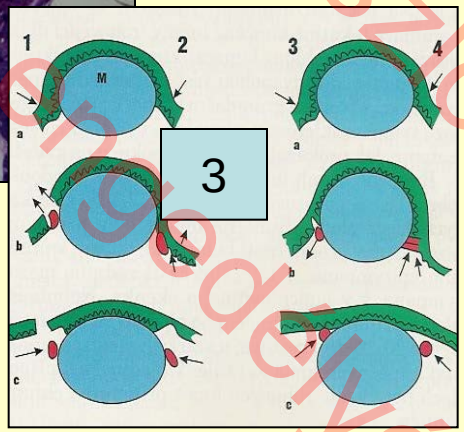
Fülöp László
Szerzői engedélyével

Cholesteatoma behind intact tympanic membrane





ACQUIRED

- (1) invasion of epidermal cells and proliferation (Rüedi 1959)
- (2) metaplastic transformation of middle ear mucosa (Sadé 1977)
- (3) inclusion cholesteatoma after retraction and adhesions of the eardrum (Tos 2000)

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Lujber László előadása
Szerző engedélyével

Cholesteatoma with tympanic membrane defect

PRIMARY ACQUIRED

- invagination of drum (retraction pocket)
- imigration with epitelial invasion
- invasion of epidermal cells and papillary proliferation
- metaplastic transformation of middle ear mucosa

SECONDARY ACQUIRED

- immigration through perforation of tympanic membrane
- traumatic implantation (iatrogenic)
- residual cholesteatoma
- recurrent cholesteatoma

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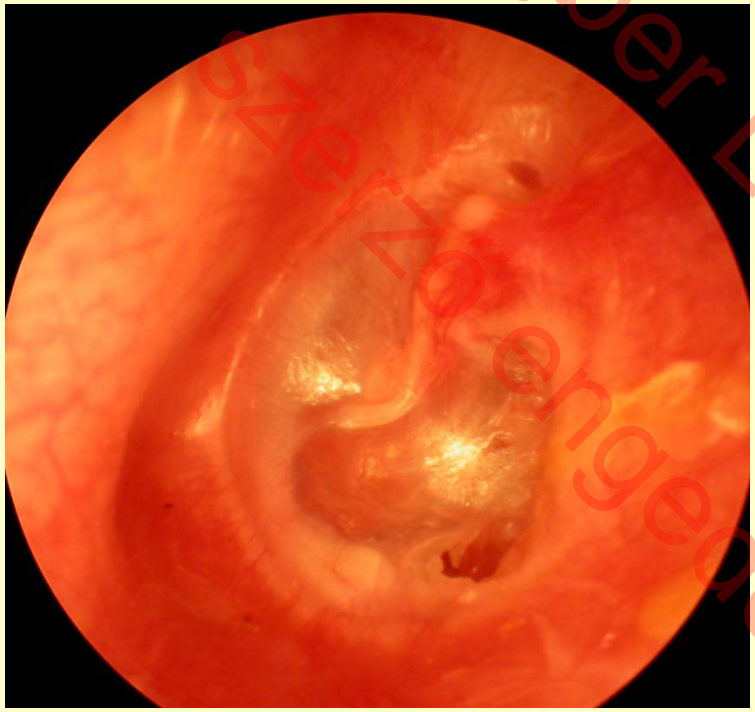
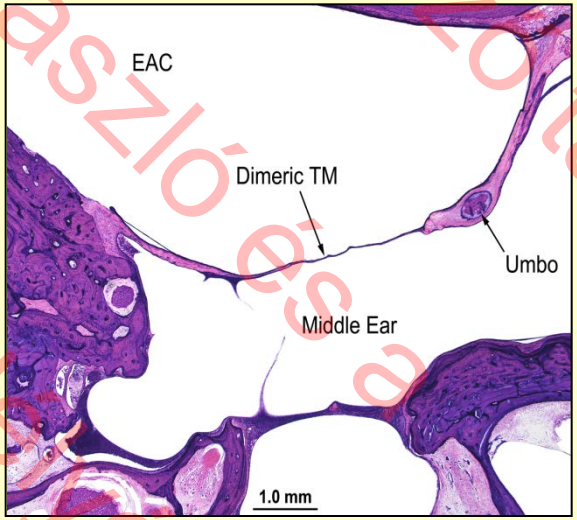
Cholesteatoma with tympanic membrane defect

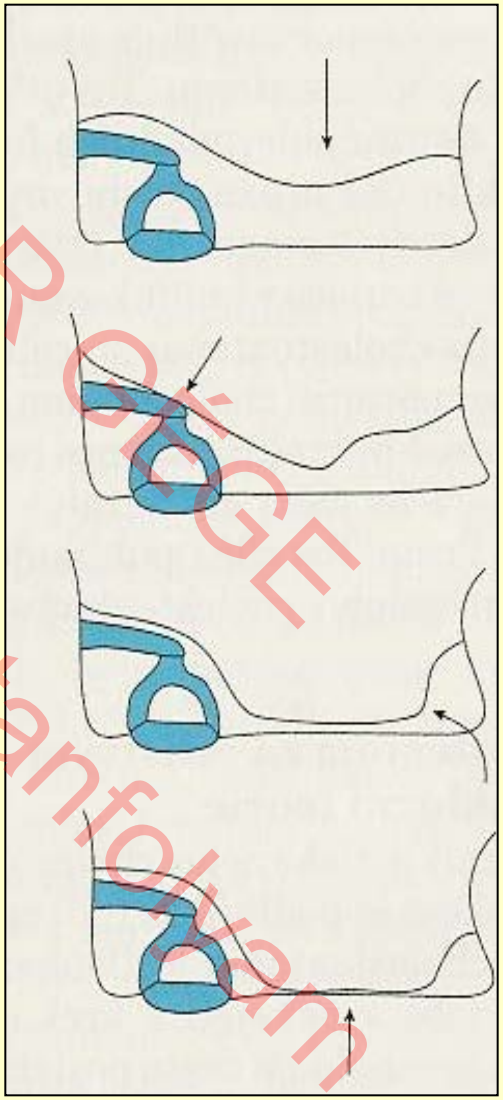
PRIMARY ACQUIRED

- invagination (retraction pocket)

MT







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Lajber László és a szerzők engedélyével
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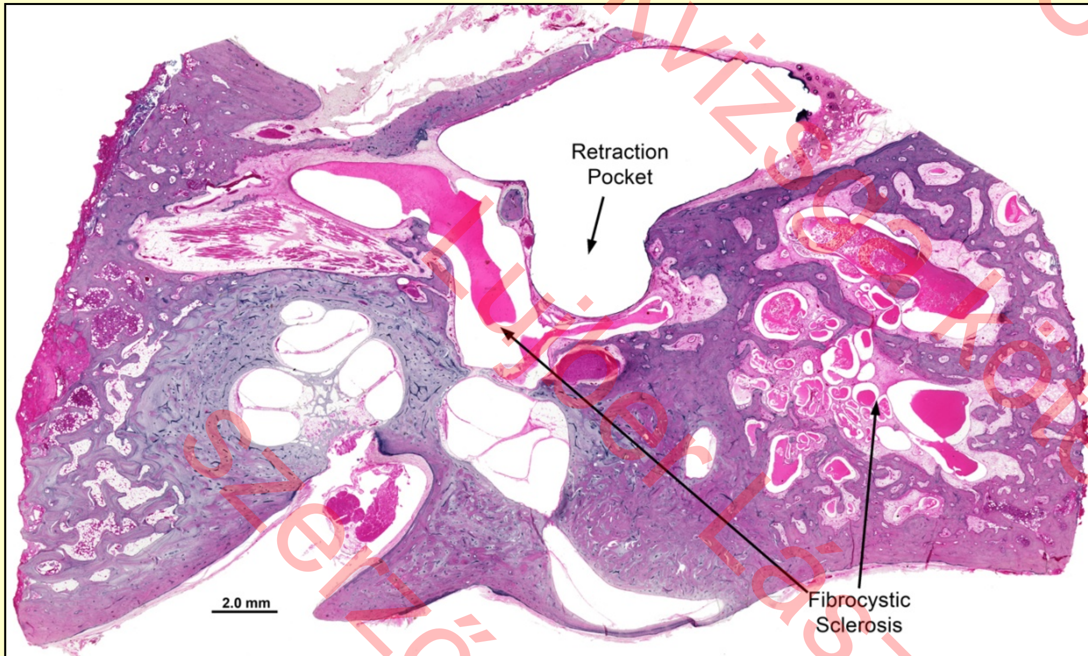
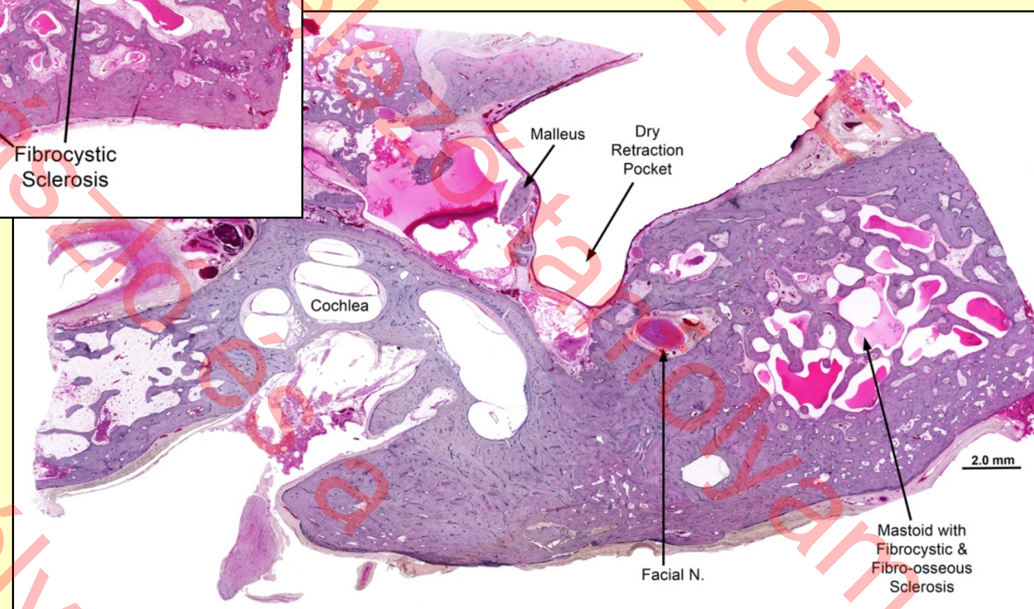
Retraction pocket





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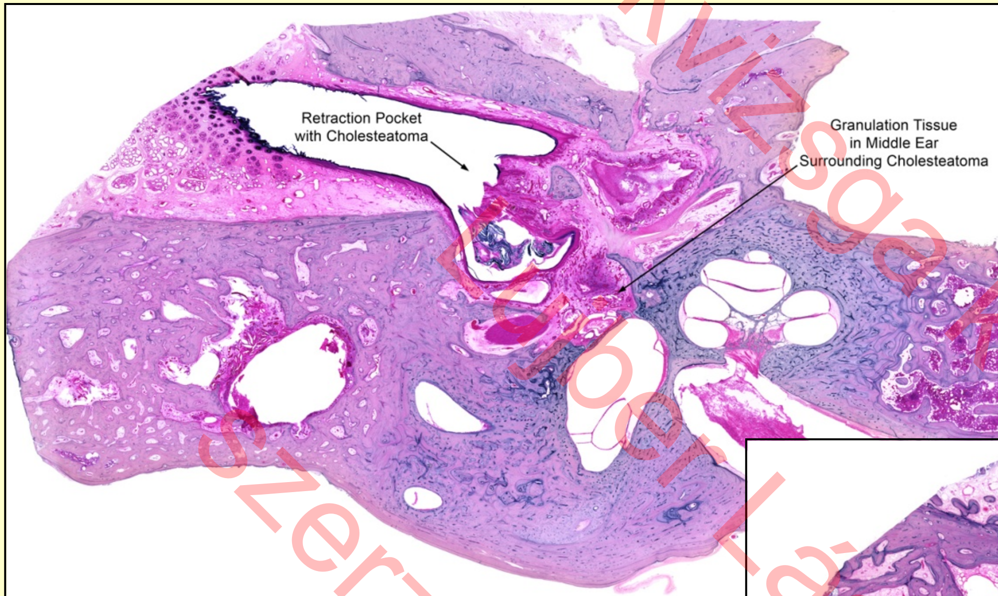
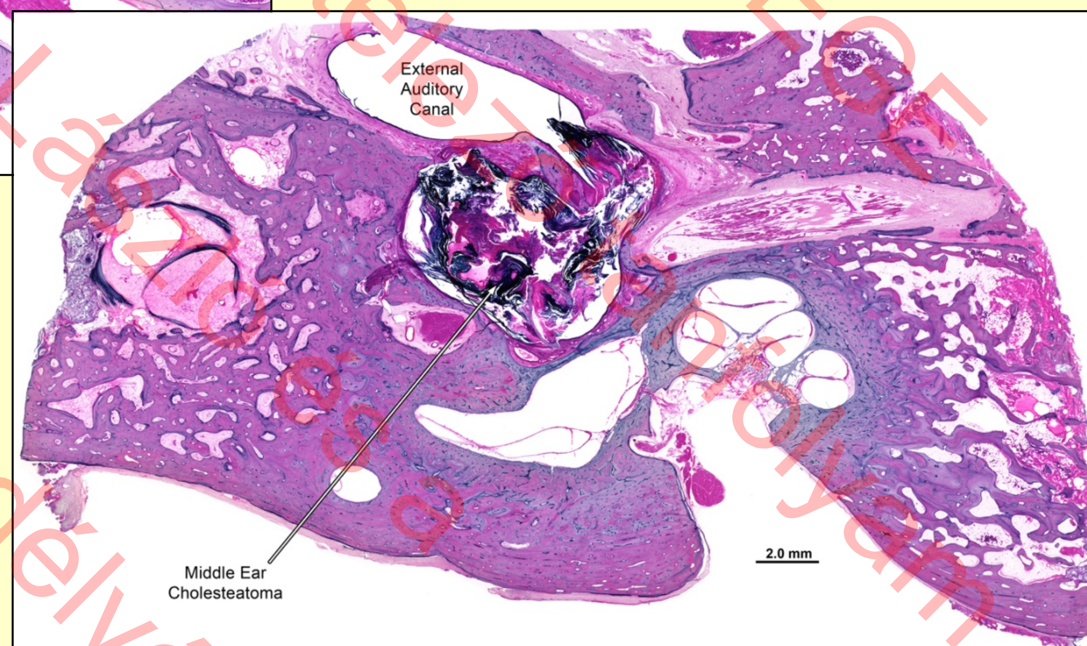
Cholesteatoma





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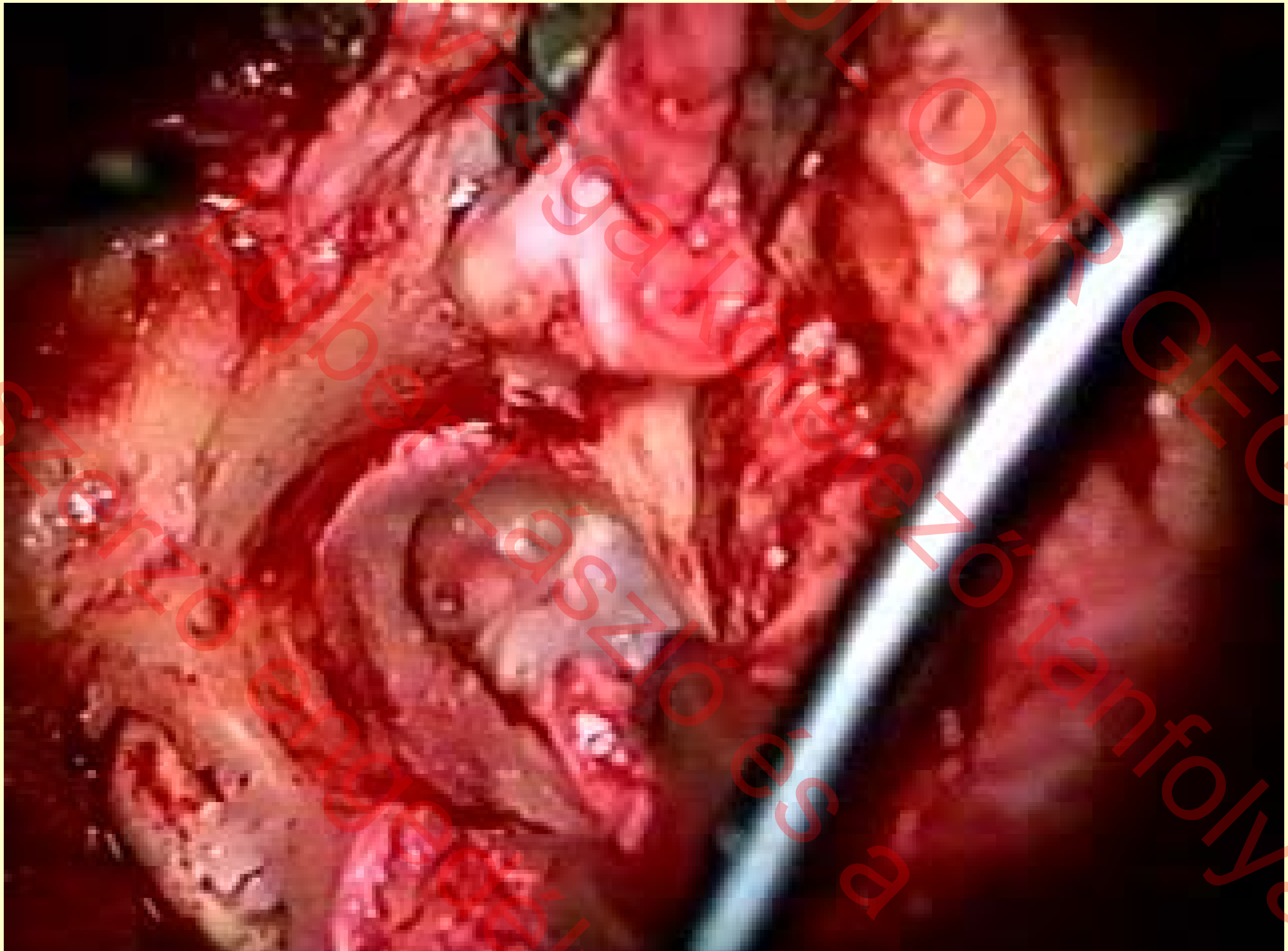
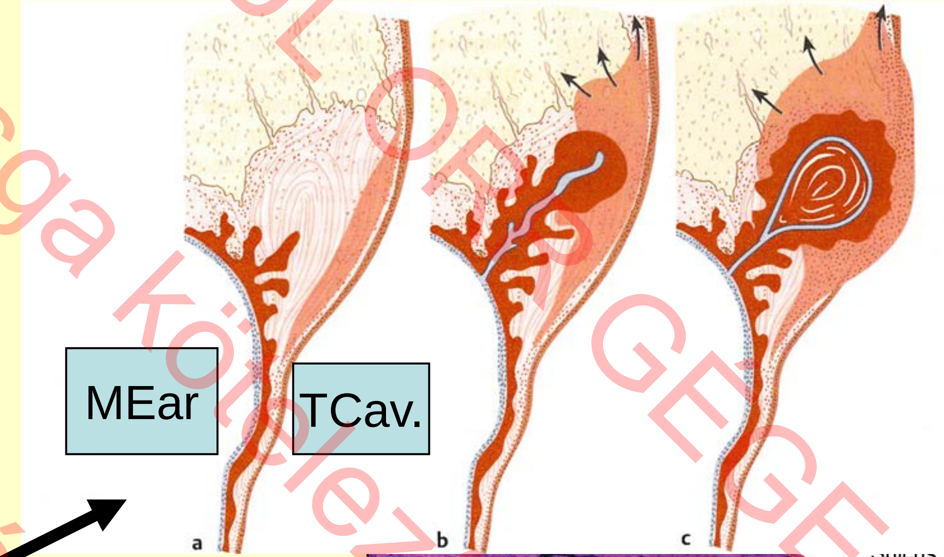
Epytympanic cholesteatoma, normal pars tensa

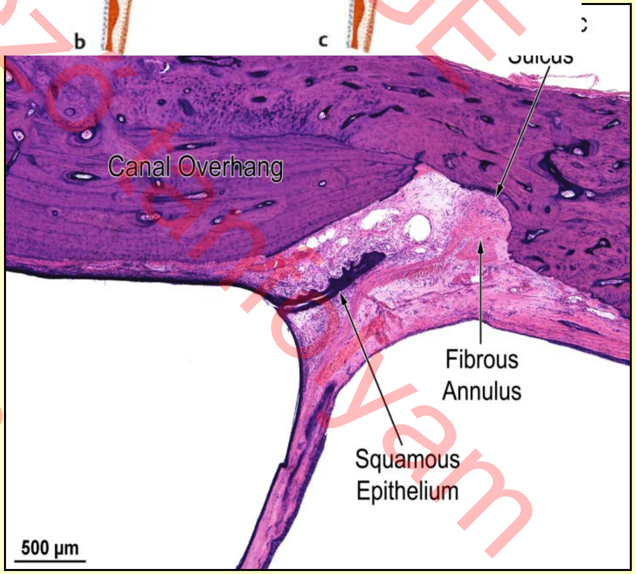


Cholesteatoma with tympanic membrane defect

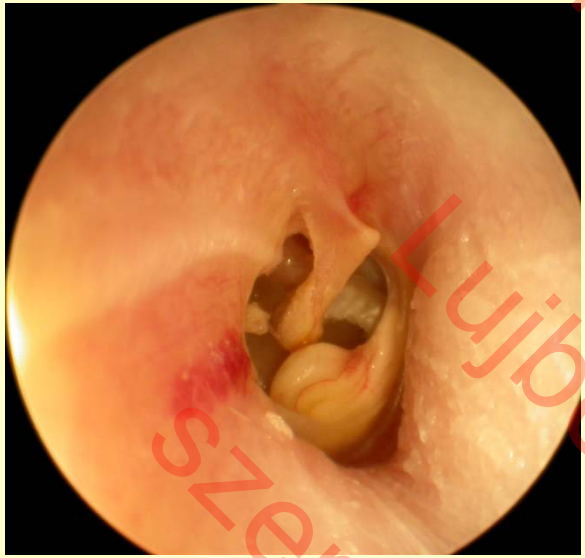
PRIMARY ACQUIRED

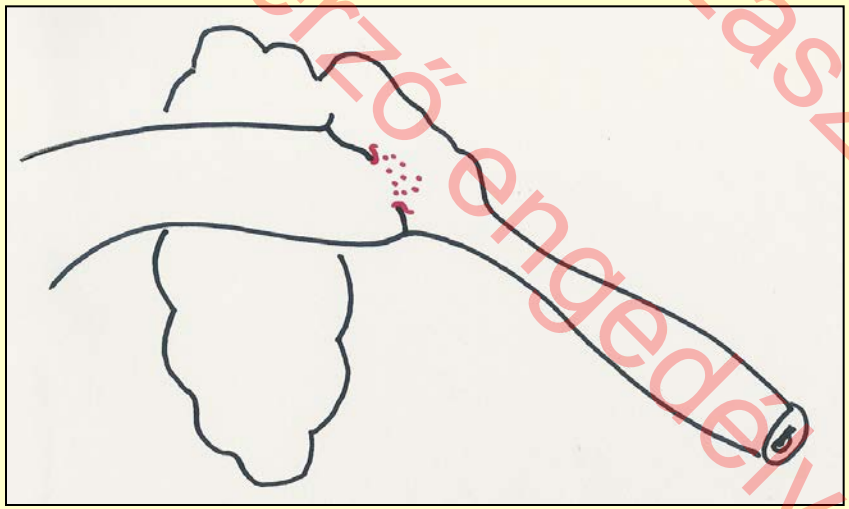
- invagination of drum (retraction pocket)
- imigration with epitelial invasion
- invasion of epidermal cells and papillary proliferation(stratum corneum of pars flaccida)
- metaplastic transformation of middle ear mucosa





Cholesteatoma with tympanic membrane defect





SECONDARY ACQUIRED

- immigration through perforation of tympanic membrane
- traumatic implantation (iatrogenic)
- residual cholesteatoma
- recurrent cholesteatoma

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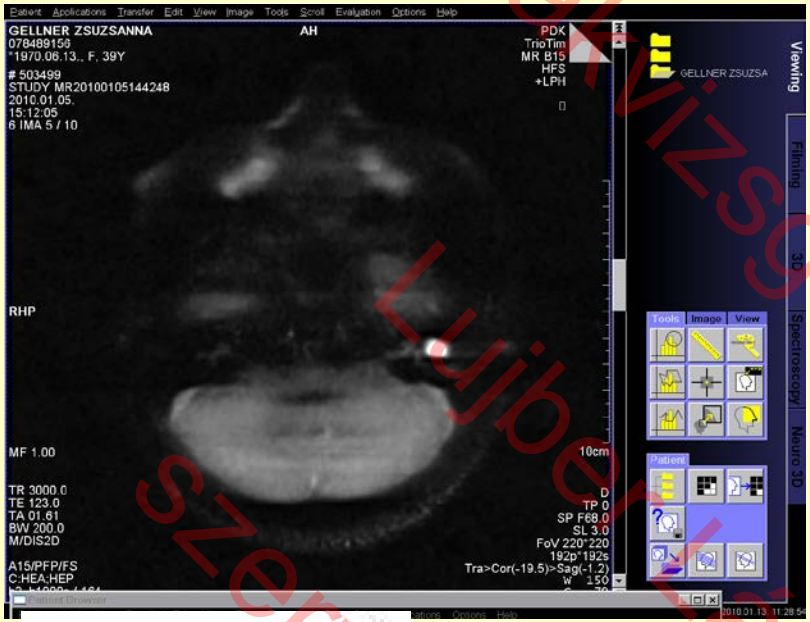
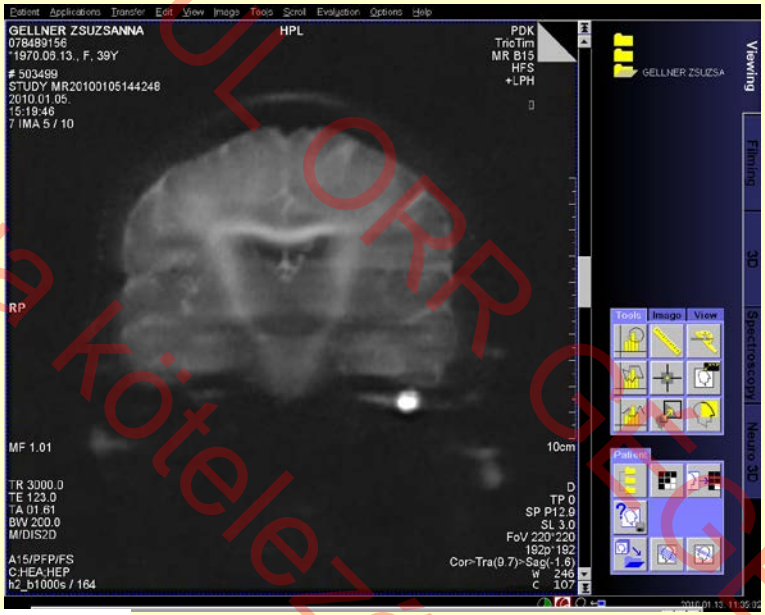
Diagnosis – good anamnestic data





Diffusion weighted MRI

Tympanoplasty

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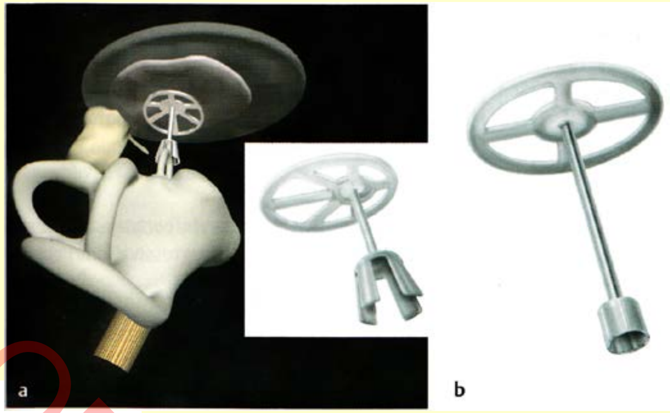
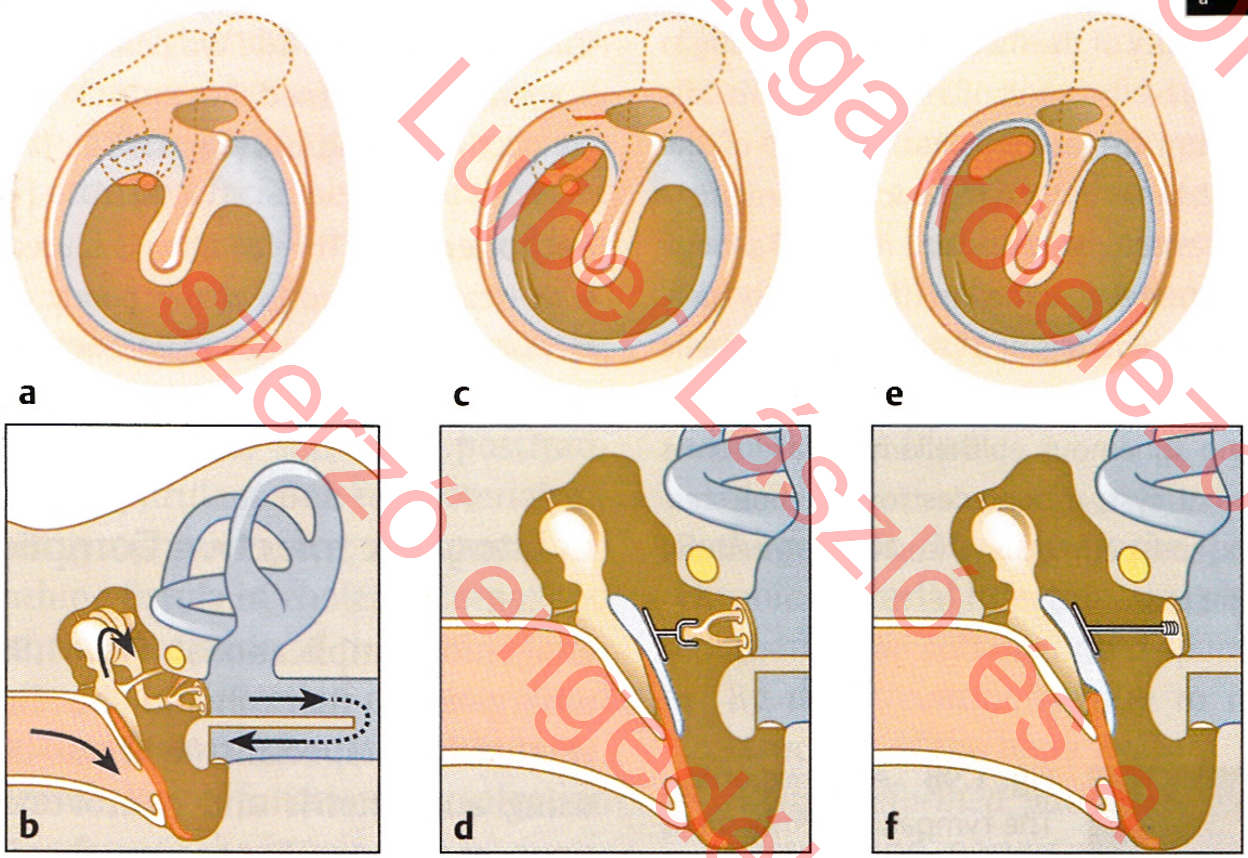
szerző engedélyével

Tympanoplasty



Conservative treatment is not a final solution !



Diff. dg:

- Inactive chr. mucosal inflamm. (adhesion between promontory and an atrophic pars tensa)
- Carcinoma
- TB

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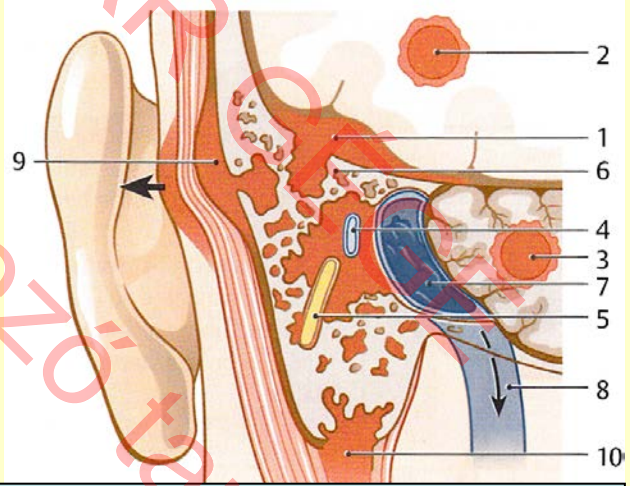
Complications

- intracranial
 (brain abscess, sinus trombosis, meningitis)
- extracranial (abscess)
- intratemporal
(n.VII, petrositis, labyrinth))



Pathogenesis of pathways
of spread of otologic complications.
Retrograde thrombosis of the small veins.

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2 messages!

- Any unexplained attack of **meningitis** must be suspected as having a nasal or otologic origin
- Every unexplained case of **septicemia** requires rigorous investigation of the ear, including radiography, because chronic middle ear disease may go unrecognsed due to lack of other typical signs

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Lumer László dia
szerző engedélyével

Take home message

Etiopathogenesis of cholesteatoma

- **intact tympanic membrane**
  - primary **congenital** (epidermoid formation)
  - primary **acquired** (inclusion cholesteatoma after retraction and adhesions of eardrum)

- **tympanic membrane with defect**
  - primary acquired (retraction pocket, proliferation)
  - secondary acquired (immigration through perforation)

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