Inflammations Of The External Auditory meatus

Localized Furunculosis

Diffuse

1- Pyogenic (diffuse otitis externa)
2- Allergic (Eczema)
3- Fungal (Otomycosis)
4-Viral
5- Malignant Otitis Externa

Furunculosis of External Auditory Meatus

- It is staphylococcal infection of the hair follicles , sebaceous glands or cerumenous glands found in the outer cartilaginous part of the external auditory meatus.

Clinical Picture of Furunculosis

1) Pain and Tenderness (usually severe because the skin is adherent to the perichonderium and there is no place for the inflammatory exudate), pain increase during mastication or on moving auricle.
2) Deafness & Tinnitus may be present if external meatus is obstructed.
3) Pre-auricular and / or Postauricular lymphadenitis may be present.
4) Scanty pus maybe present if the furuncle ruptures.

Causes of Recurrent Furunculosis

1) Diabetes.

2) Swimming in infected swimming pools.

3) Itching in the external auditory meatus due to any cause e.g. Seborrhoeic dermatitis or Otomycosis.

4) Anemia and low general resistance.

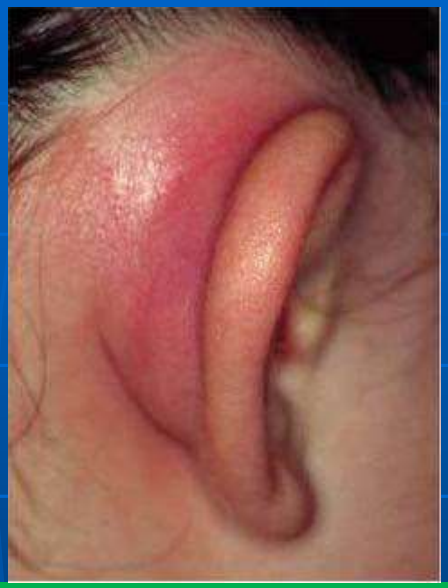
Treatment of Furunculosis

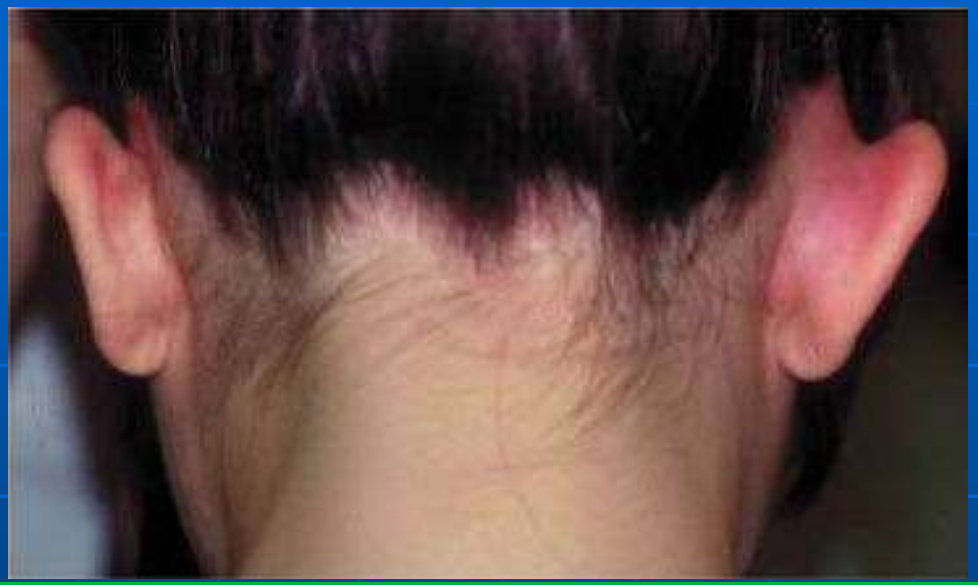
1) Antibiotics & Analgesics

2) Glycerin icthyol as light gauze packs in the external meatus.

3) Incision of the furuncle and drainage under general anesthesia rarely needed in resistant cases.

D.D. between Furunculosis and Acute Mastoiditis

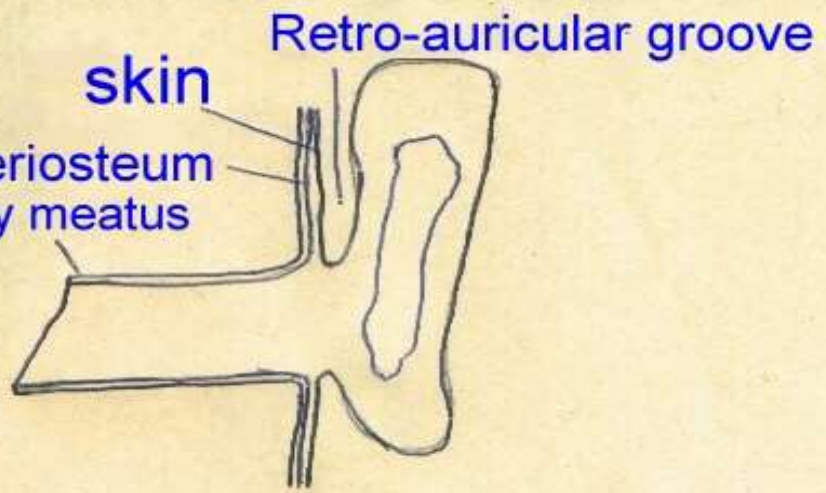




- Furunculosis of external auditory meatus may be complicated by suppuration in the post auricular lymph node and present by retro auricular abscess as that of acute mastoiditis but differences are shown in the Table.

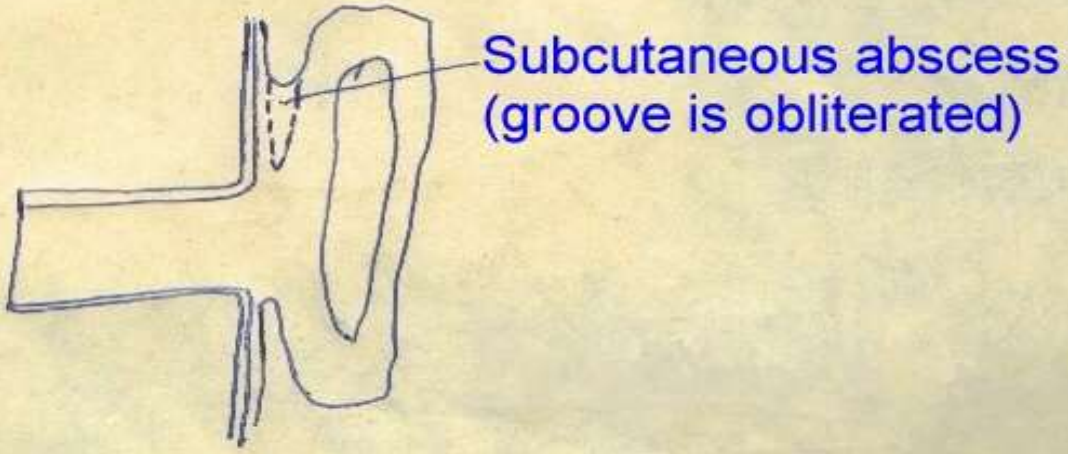
	Furunculosis	Acute Mastoiditis
History	Of scratching the ear .	Of Otitis Media.
Clinical.P. Fever	Fever is not present	High Fever
Pain & tenderness	Increase on mastication or moving auricle	Pain is not related to mastication or moving auricle and tenderness on mastoid antrum and tip.
Discharge	scanty pus, never mucoid.	Mucopurulent and copious

Hearing	Normal except if meatus is obstructed	Conductive deafness
Site	Cartilaginous part (Outer 1/3)	Sagging of post, sup. meatus in inner bony part (inner 2/3)
Drum membrane	Normal	show congestion or perforation.
Retro auricular groove	Obliterated	Preserved
X-ray	Mastoid cells normal	Mastoid cells hazy



Normal Ear

Acute Mastoiditis

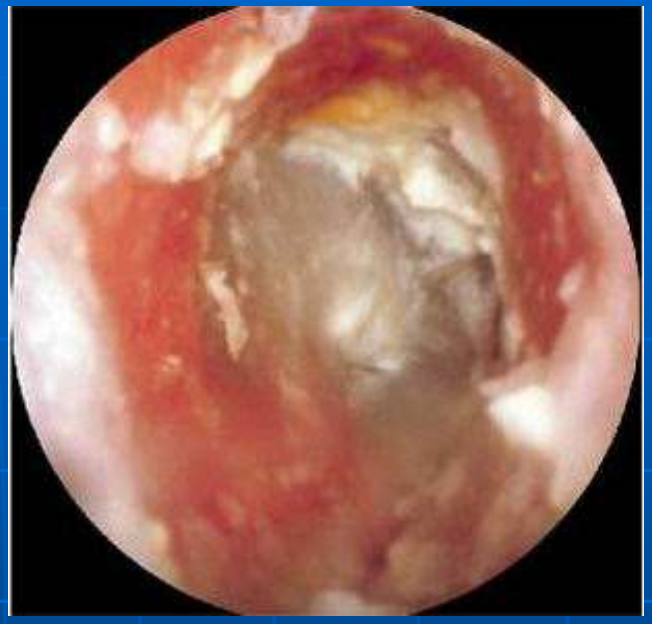


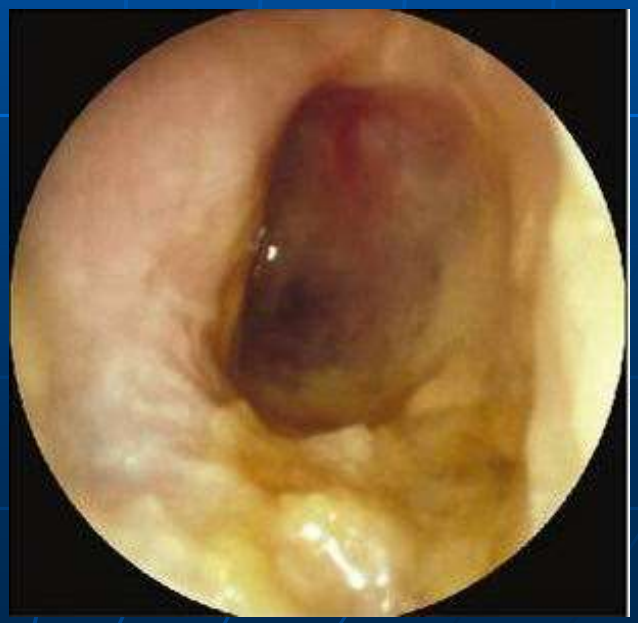
Furunclosis of EAM

Diffuse Otitis Externa

Bacterial Type

It is staph , strept or B.Coli infection of unhealthy skin of the external auditory Canal. It is usually 2ry to Scratching , F.B , or discharge from O.M.





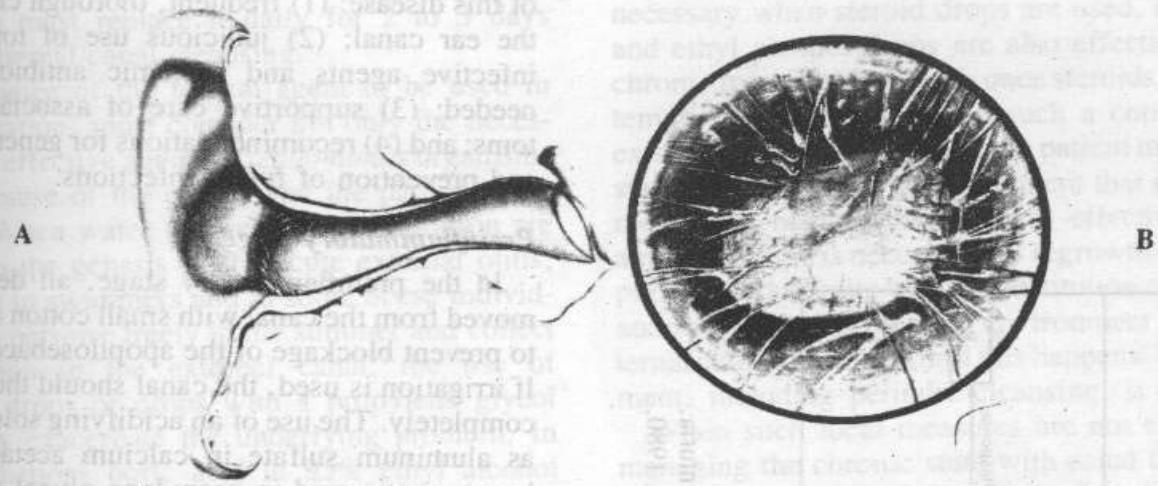


Fig. 153-2. Mild phase of acute inflammatory diffuse external otitis. Canal skin is slightly reddened and swollen in this phase. **A,** Coronal view. **B,** Tympanic membrane. (From Senturia, B.H., et al.: Disease of the external ear; an otologic-dermatologic manual, ed. 2, New York, 1980, Grune & Stratton. By permission.)

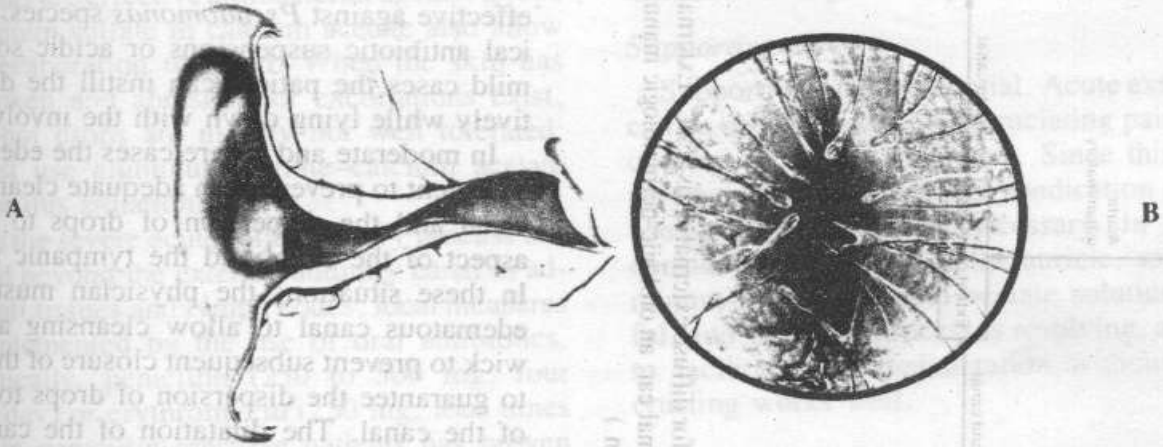


Fig. 153-3. Moderate phase of acute inflammatory diffuse external otitis. Canal skin has become more erythematous and edematous. Greenish secretion coats skin. **A,** Coronal view. **B,** Tympanic membrane. (From Senturia, B.H., et al.: Disease of the external ear: an otologic-dermatologic manual, ed. 2, New York, 1980, Grune & Stratton. By permission.)

Diffuse Otitis Externa (cont.)

Clinical Picture:

1) Pain, tenderness & scanty discharge.

2) Redness and swelling of meatal skin.

3) Deafness & Tinnitus If meatus is blocked.

Treatment:

1) Systemic Antibiotics & Analgesics.

2) Ear drops containing Antibiotic & corticosteroid.

Allergic Type or Eczematous Otitis Externa

A) Acute:

There is pain, itching, oozing of serum + 2ry infection.

B) Chronic:

There is Itching, Fissuring and Scales.

Treatment:

1) Avoid water and soap.

2) General antihistaminic or cortisone.

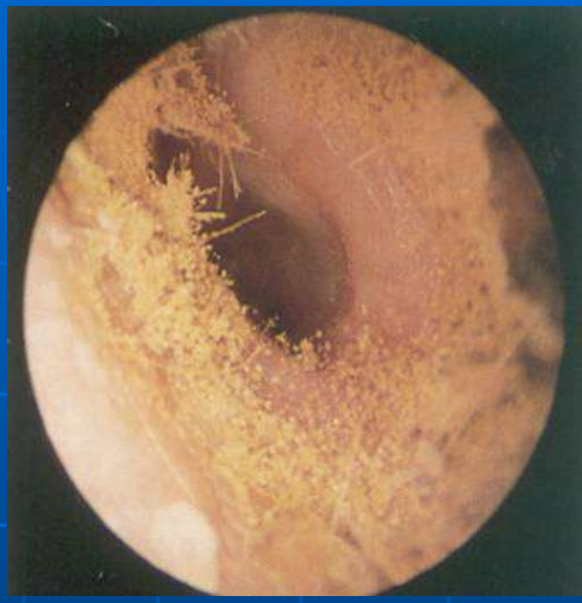
3) Local lotions or creams containing cortisone and antibiotic for 2ry infection.

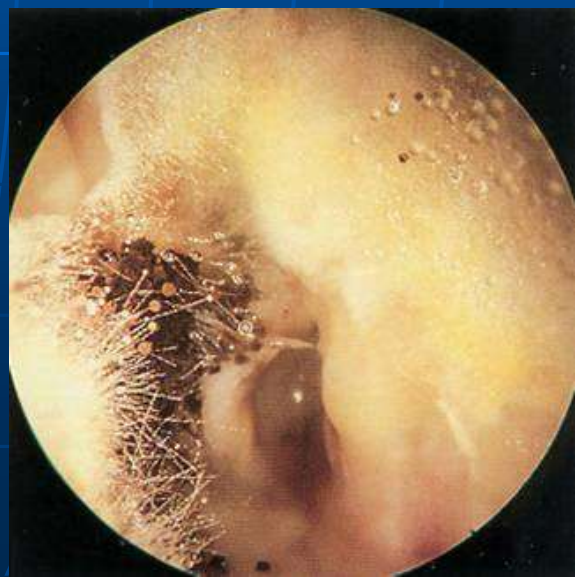
4) If you found the cause of allergy try to avoid it **or** do gradual desensitization.

Fungal Type (Otomycosis)

It is Fungus infection **of** the external auditory meatus, it is due to

1. Aspergillus Niger (if the colour of the spores is black).
2. Candida albicans (if the colour of the spores is white).
3. Aspergillus flavus (if the colour of the spores is yellow) It is less common.



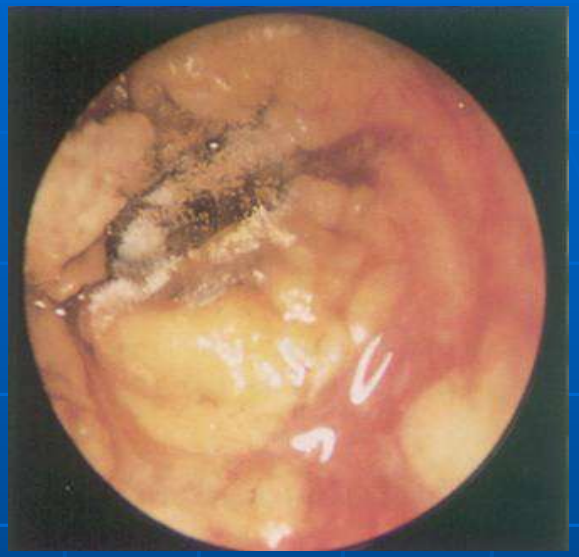


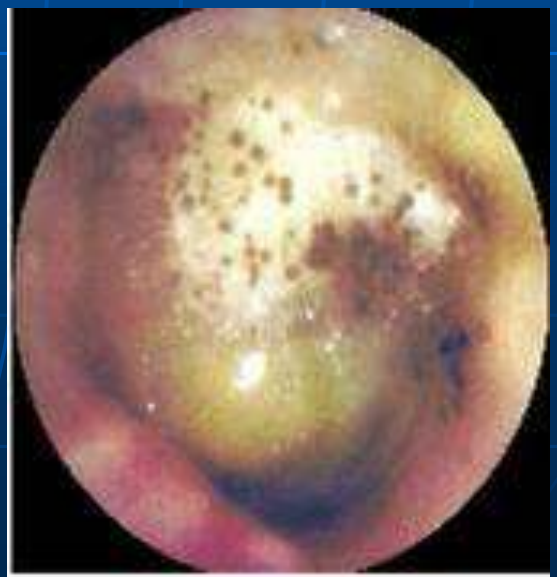
Fungal Type (Otomycosis) (cont.)

Clinical Picture :

Deep seated itching with deafness and pain.

On examination there is mass of fungus looks like a wet newspaper or wet blotting paper.





Treatment Of Otomycosis

1) Removal of the fungus either by washing flowed by drying or by suction (dry method).
2) Antifungal Treatment: as Nystatin or Clotrimazol drops or cream.
3) Keratolytic as 2% Salicylic acid in alcohol because the fungus is present deep under the epidermis to **avoid** recurrence.

N.B.: avoid water from entering the ear for one month.

Viral External Otitis

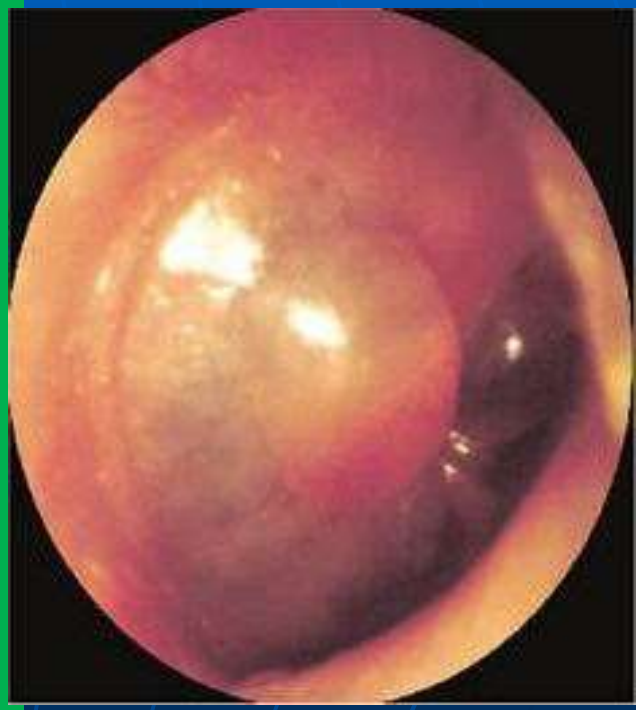
Herpes simplex can affect the ear in 2 forms

1- With common cold it leads to some vesicles on the external auditory canal and lips.

2- Bullous Myringitis:

Viral External Otitis (cont.)

- Bullous Myringitis: it is viral infection of the T.M. That leads to formation of bullae by separating the outer epithelial layer of the T.M. from the middle fibrous layer.



Clinical Picture Of Bullous Myringitis

- Severe otalgia
- Yellowish watery discharge due to rupture of some of the bullae.
- Examination can see the bullae & discharge

Treatment

- Pain killers. (analgesics)
- Antiviral treatment as Acyclovir tab.

Herpes Zoster Oticus
(Ramsay hunt syndrome)

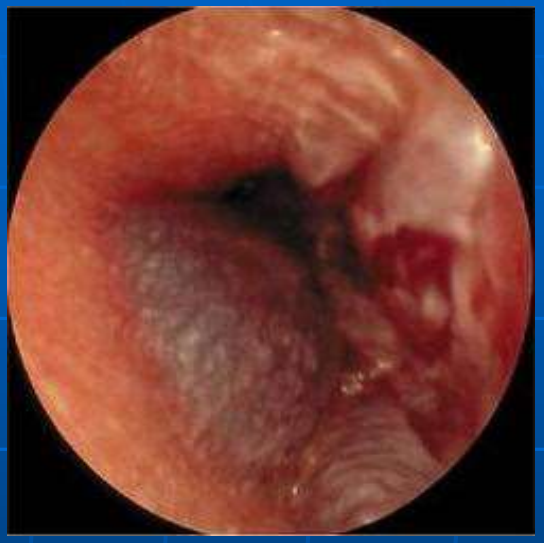
The virus affects the geniculate ganglion of the facial nerve.

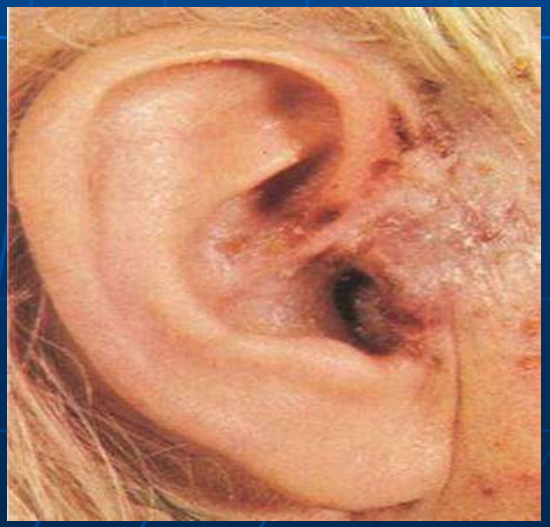
C.P. 1- Lower motor neuron facial N paralysis at level of geniculate ganglion.

2- Ear pain.

3- Vesicles on the auricle and external auditory meatus.

4- SNHL & Vertigo if 8th nerve is affected.





Herpes Zoster Oticus (cont.)

Treatment:

- Acyclovir systemically and locally.
- Analgesic for pain.

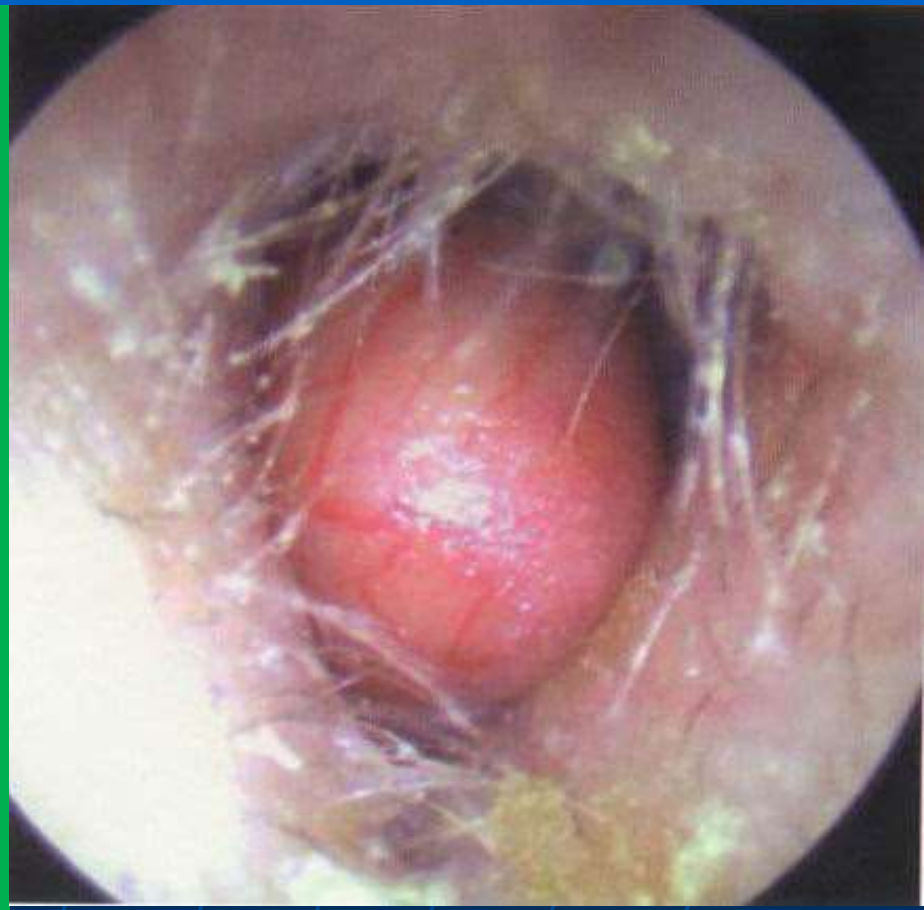
Malignant External Otitis

It is severe progressive otitis externa with the following ***characters***:

- The patient is usually old & diabetic.
- Infection spreads from the skin of meatus to underlying bone and to skull base.
- Pseudomonas aeruginosa is the usual causative organism.
- Cranial Nerve paralysis usually occurs specially Facial N. but also 9th ,10th & 11th Nerves can be affected (Jugular Foramen S.)
- The Condition not respond to usual lines of treatment, progressive and may end fatally.

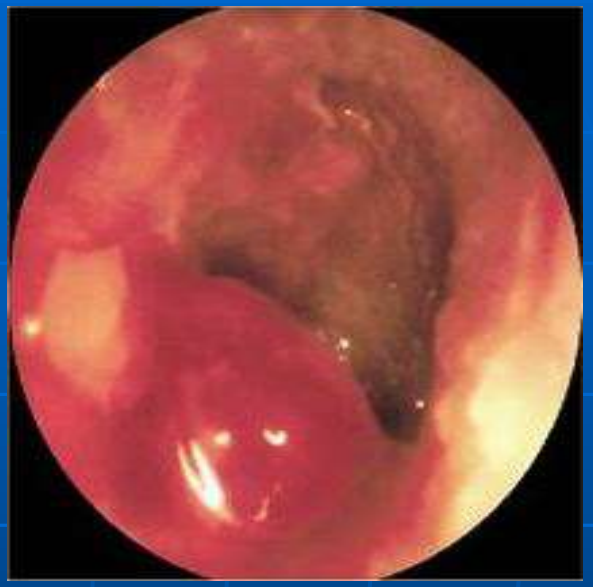
Clinical Picture of Malignant O.E.

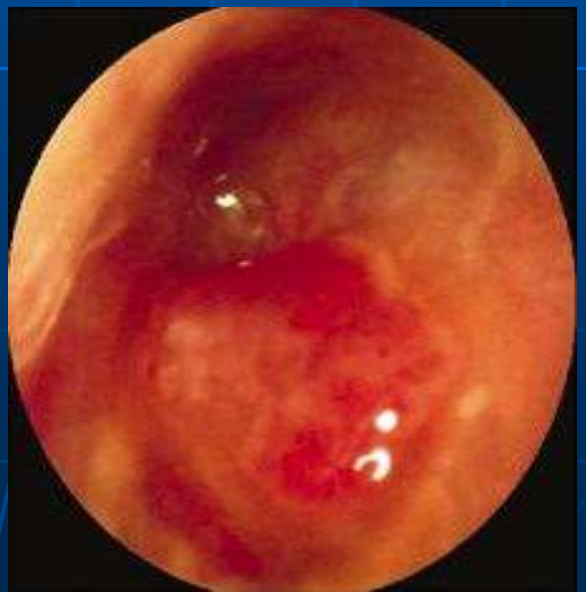
- As acute bacterial external otitis (pain, tenderness, discharge , conductive or mixed hearing loss) but the pain is very sever and the condition does not respond to treatment.



Clinical Picture of Malignant O.E.

- Examination show very severe tenderness & granulation tissue is present at junction of bone & cartilage. Facial paralysis or other cranial nerve paralysis maybe present and considered bad prognostic sign.





Malignant External otitis
Investigations

1- C.T. scan.

2- Galium or technicurm 99 scans to asses the severity, and for follow up.

3- Culture and sensitivity test for the ear discharge.

4- Blood sugar to control diabetes.

Malignant External otitis Treatment

1- Systemic Antibiotics by combination of ciprofloxacin and 3rd generation cephalosporin.

2- Quinolone antibiotic ear drops.

3- Control of diabetes.

4- Pain killer.

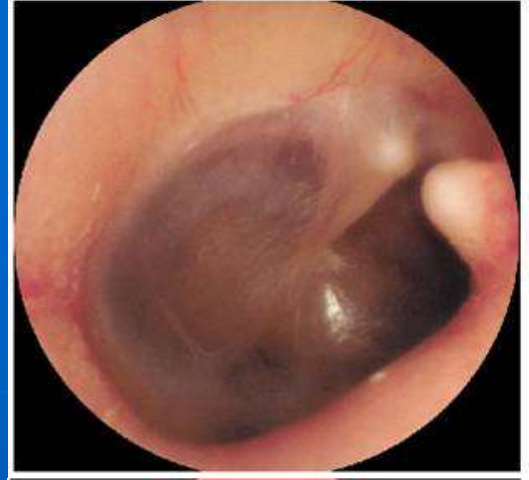
5- Surgical removal of necrotic tissues is rarely needed.

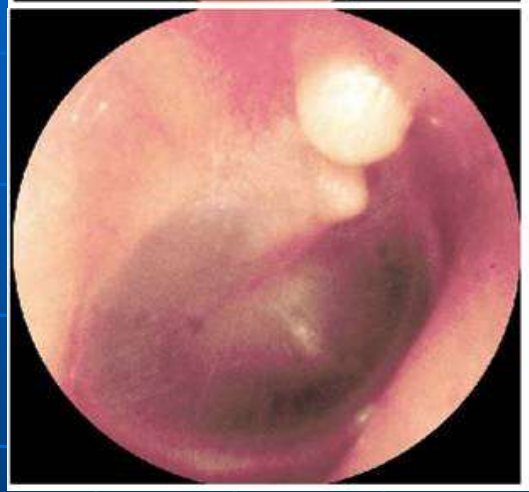
Tumors of the External Ear

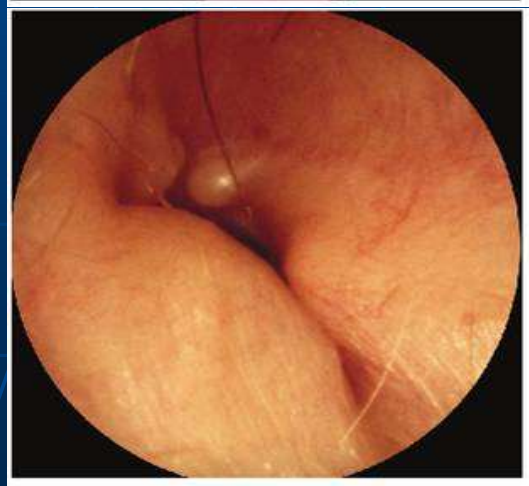
Benign Tumors:

***Exostosis*:**

- Sessile or pedunculated bony tumor into the bony meatus. If large it may cause deafness or interfere with drainage of discharge in C.S.O.M.
- Treatment : Removal if causing obstruction.







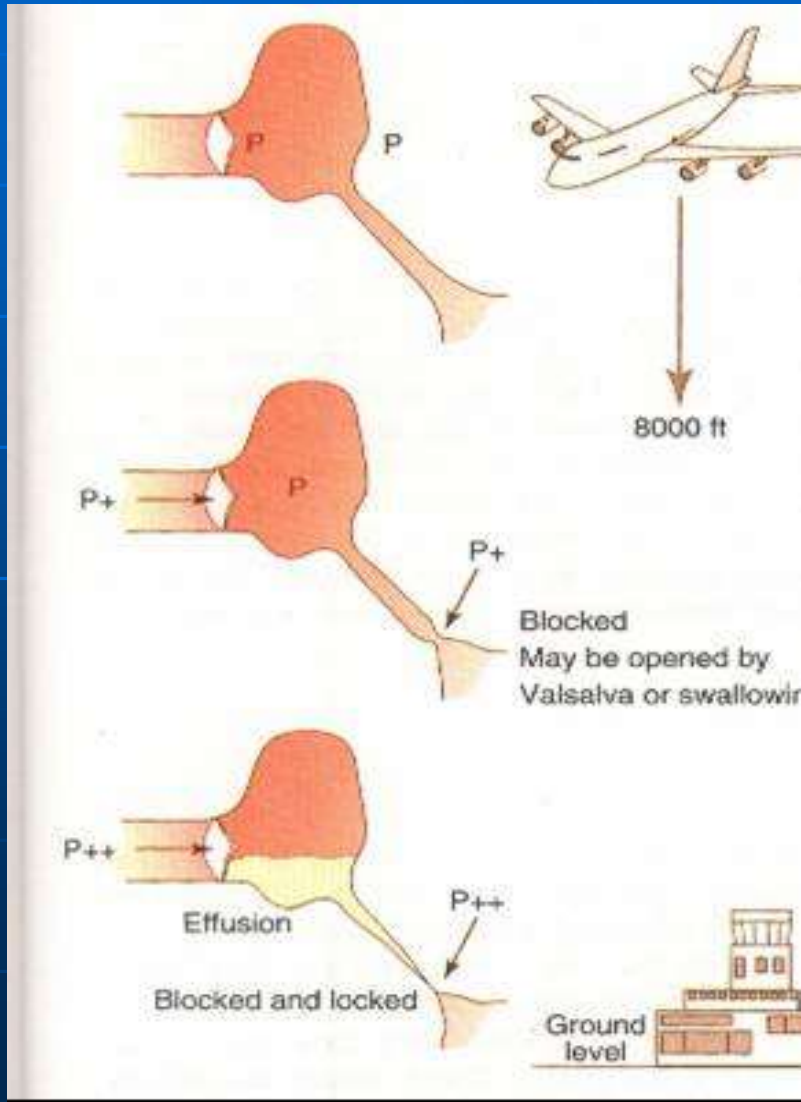
Tumors of the External Ear (cont.)

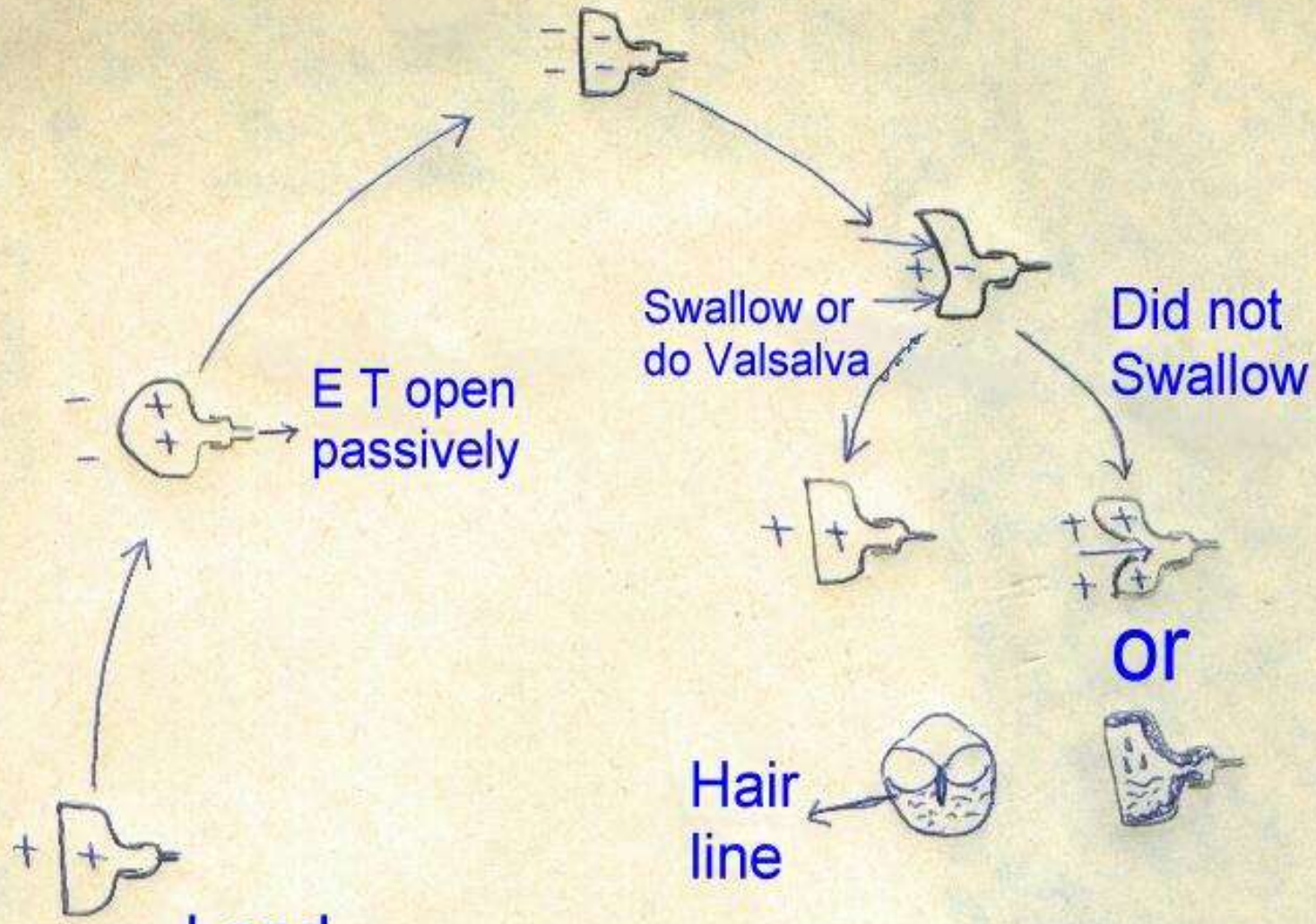
- **Malignant Tumors:**
- Rodent ulcer or carcinoma
- Treatment: Excision and/or irradiation

Otitic Barotrauma

It occurs during descent by aircraft or during diving.

Cause : air pressure in high altitude is low and when the aircraft descent rapidly the pressure increase and become more than that in the middle ear so air must go through Eustachian tube to middle ear.





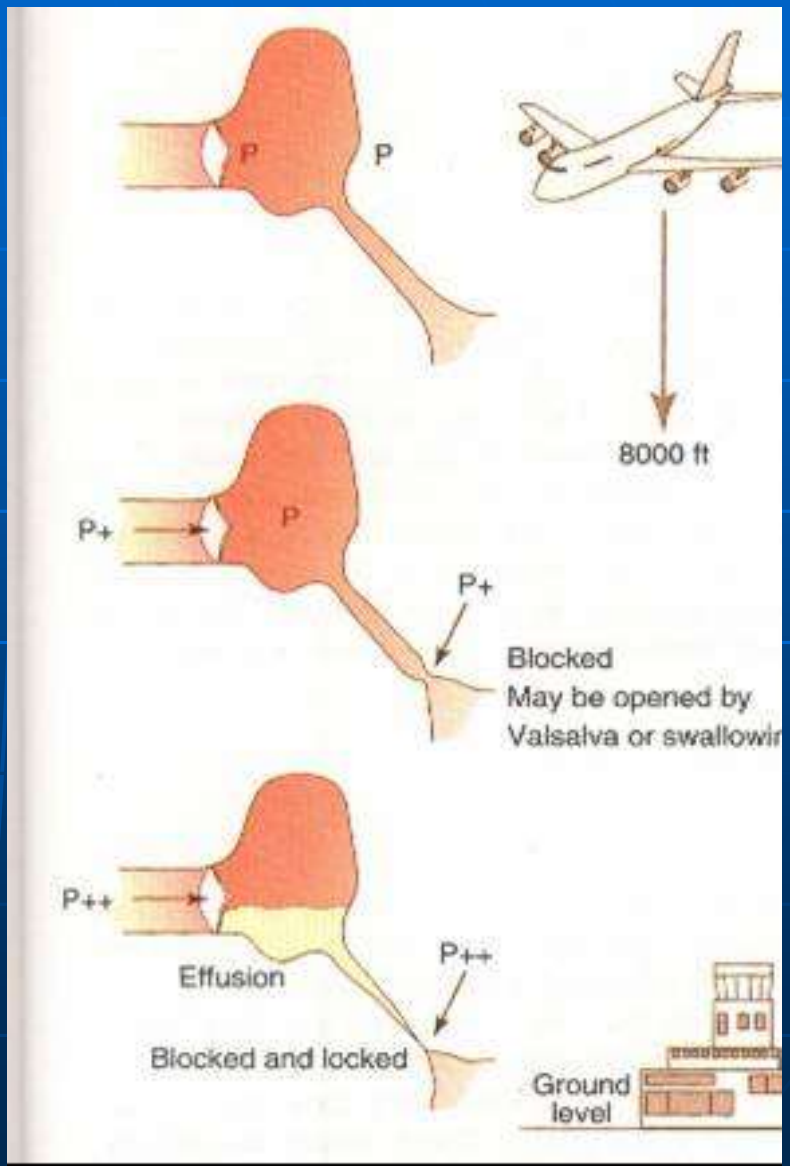
Otitic Barotrauma

Otitic Barotrauma (cont.)

If Eustachian tube does not open (due to edema in its wall as in rhinitis or allergy or during sleep or no swallowing). There will be negative pressure in the middle ear.

Otitic Barotrauma (cont.)

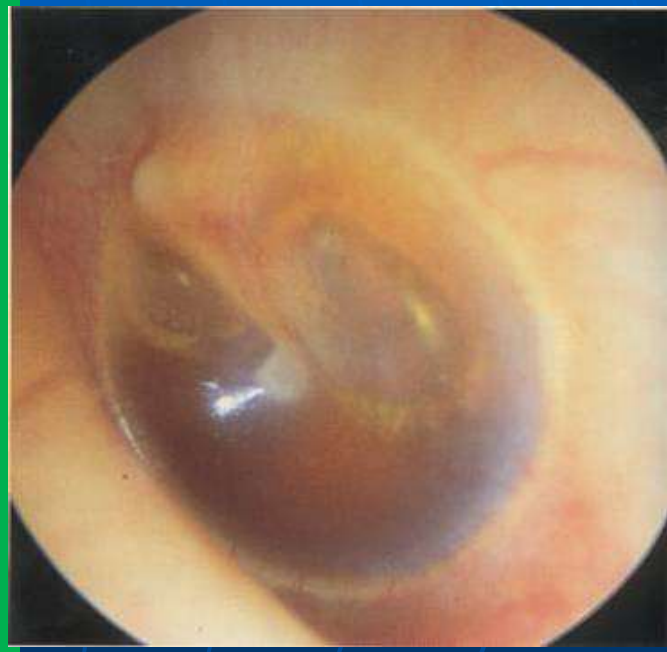
- The negative pressure in the middle ear will lead to:
- 1- Retraction of the drum membrane that may lead to rupture.
- 2- Congestion and edema of m.m. of middle ear followed by transudation of Fluid.



Otitic Barotrauma (cont.)

Clinical Picture:

1. Pain and deafness & tinnitus
2. Drum is retracted or even perforated.
3. Drum may be intact and show fluid level behind it (hair lines).



Treatment of Barotrauma

Prophylactic treatment.

1) Avoidance of flying with URTI

2) During descent chewing gum, always swallow, do Valsalva, do not sleep “ET are not opened by swallowing during sleep”.

Treatment of Barotrauma (cont.)

Curative Treatment:

1- Nasal drops & Systemic nasal decongestant

2- Antibiotics.

3- Inflation of Eustachian tube " there is 3 methods"

a) Valsalva method.

b) Politzer's method.

c) Catheter method (Eustachian Catheterization).

4- If Fluid is present do myringotomy.