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Ear Disorder

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Outlines

- **Introduction**
- **Terminology**
- **Disorders of outer ear**
 - Otitis externa
 - Impacted Cerumen
 - Furunculosis
- **Disorders of middle ear**
 - Acute otitis media
 - Serous otitis media
 - Chronic otitis media
- **Disorders of inner ear**
 - Hearing loss
 - Meniere's disease
 - Labyrinthitis

Introduction

- Impaired hearing is, with rare exception, the result of disease or abnormality of the outer, middle, or inner ear. Serious impairment of hearing at birth almost always results from a dysfunction of the auditory nerve and cannot be improved by medical or surgical treatment.

TERMINOLOGY

- **Tinnitus:** Is the perception of noise or ringing in the ears.
- **Otalgia:** Ear pain.
- **Barotraumas:** Injuries caused by increased air or water pressure.
- **Myringotomy:** Incision of the ear drum.
- **Otorrhea:** Purulent ear discharge.
- **Myringoplasty:** Closure of perforation in the tympanic membrane.
- **Tympanoplasty:** surgical correction of tympanic membrane or ear bones.
- **Presbycusis:** Hearing loss caused by process of aging.
- **Otosclerosis:** Abnormal hardening of bones.
- **Endolymph:** Fluid contained in the membranous labyrinth of inner ear

DISORDERS OF EXTERNAL EAR

- **OTITIS EXTERNA:** It refers to the inflammation of external auditory canal.
- **CAUSES:**
 - Infection by staphylococcus aureus causing boils in auditory canal.
 - Swimmer's ear i.e. water in ear canal.
 - Prolonged exposure to moisture or by allergic reactions to dandruff, soaps, hair sprays and hair dyes



DISORDERS OF EXTERNAL EAR

CLINICAL MANIFESTATIONS:

- Pain and discharge from auditory canal
- Fever.
- Pruritus, hearing loss or feeling of fullness

MEDICAL MANAGEMENT:

- Relieving the discomfort.
- Reducing the swelling of the ear canal.
- Eradicating the infection.
- Analgesics for the first 48 to 92 hours.
- Antibiotics for infection and corticosteroid agents to soothe the inflamed tissues.
- For fever, systemic antibiotics may be prescribed.
- For fungal disorders, antifungal agents are prescribed.

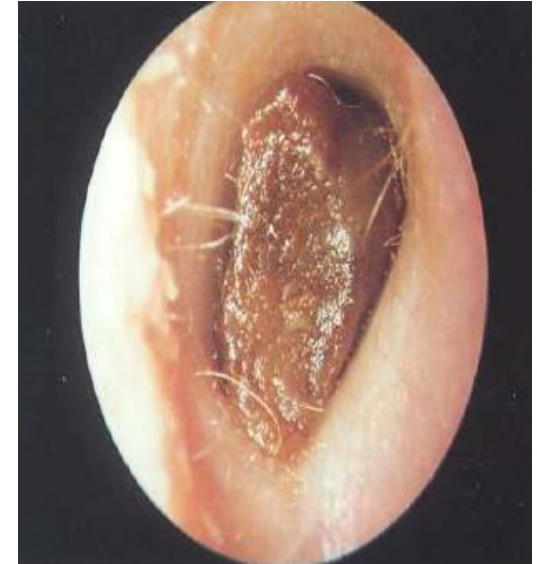


PREVENTION

- Teach patients not to clean the external auditory canal with cotton-tipped applicators.
- Avoid swimming, and not to allow water to enter the ear when shampooing or showering.
- A cotton ball can be covered in a water-insoluble gel such as petroleum jelly and placed in the ear as a barrier to water contamination.

IMPACTED CERUMEN

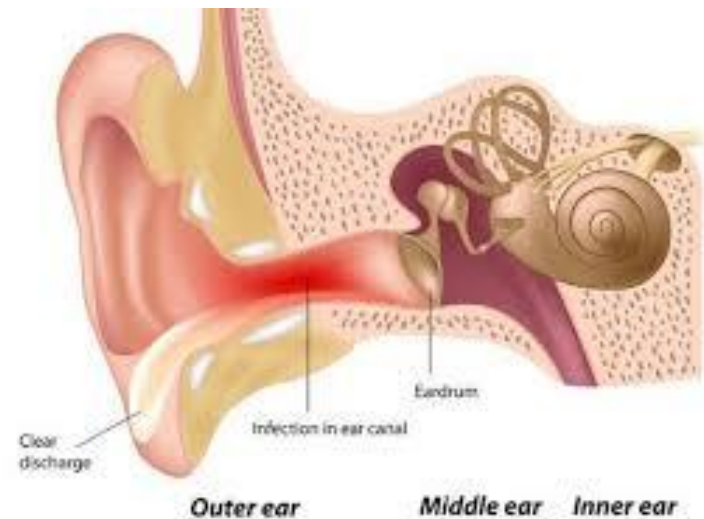
- It is a condition in which ear wax accumulates in ear canal leading to blockage and pressure on ear canal.
- **CAUSES**
 - Use of hearing aids or ear plugs
 - Putting objects in the ear
 - Anatomical defect (which interferes in removal of wax)
 - Older age



IMPACTED CERUMEN

- **SIGNS AND SYMPTOMS**

- Tinnitus
- Itching
- Difficulty in hearing
- Ear discharge
- Odor coming from the ear



- **MANAGEMENT**

- > Irrigate the ear canal with irrigator.
- > Instill antibiotic ear drops to prevent infection.
- > Manual removal of wax.
- > Wiping and clean the external ear by a cloth.

FURUNCULOSIS

- It is infectious disorder characterized by formation of boils in the hair follicles.
- **CAUSES:**
 - Poor hygiene
 - Malnutrition
 - Weak immune system
 - Presence of abrasions and cuts



FURUNCULOSIS

- **SIGNS AND SYMPTOMS:**

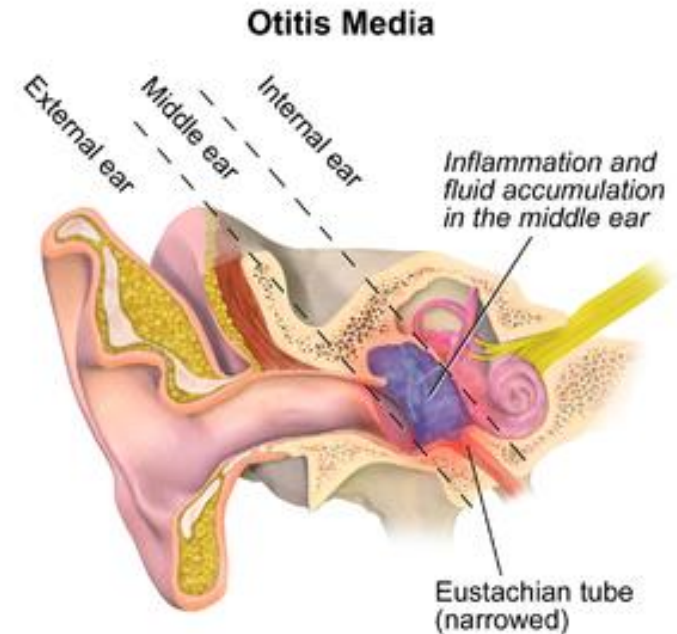
- Tenderness
- Hearing loss

- **MANAGEMENT**

- Nimesulide 100mg BD
- Apply antibiotic steroid cream
- Warm compress
- Abscess drainage by incision if necessary

DISORDERS OF MIDDLE EAR

- **OTITIS MEDIA:** It is the inflammation of the mucous membrane of the middle ear, Eustachian tube and mastoid process.
- **ACUTE OTITIS MEDIA:** Otitis media literally means “inflammation of the middle ear”. It usually lasts for less than 6 weeks.



DISORDERS OF MIDDLE EAR

- **CAUSES:**

- Entry of pathogenic bacteria into the middle ear.
- Infection of upper respiratory tract.
- Perforation of the tympanic membrane.

- **SIGNS AND SYMPTOMS**

- Acute onset of Otolgia.
- Fever
- Sleeplessness
- Irritability
- Pulling of the ear by the child

- **MANAGEMENT:**

- Control the infection by administration of antibiotics e.g. ampicillin.
- Administer analgesics to relieve Otolgia.
- Administer anti-inflammatory drugs.

SEROUS OTITIS MEDIA

- It is also known as glue ear or secretory otitis media. It is collection of fluid without evidence of active infection in the middle ear i.e middle ear effusion. It is commonly found in children.

- **CAUSES:**

- Auditory tube obstruction e.g pharyngeal swelling, enlarged adenoids or tumours.
- Barotraumas due to sudden pressure changes in middle ear as in aeroplane descent when suffering from cold.
- Obstruction of Eustachian tube due to nasopharyngeal carcinoma
- Radiation therapy or untreated acute otitis media.



SEROUS OTITIS MEDIA

- **CLINICAL MANIFESTATION:**

- Hearing loss.
- Sensation of congestion
- Dull tympanic membrane appears on otoscopy
- Air bubbles may be seen in middle ear.

- **MANAGEMENT:**

- Myringotomy and a tube may be placed to keep the middle ear ventilated.
- Corticosteroids in small doses may decrease inflammation of Eustachian tube.
- Decongestants.

CHRONIC OTITIS MEDIA

- It is chronic inflammation of middle ear with tissue damage, usually caused by repeated episodes of acute Otitis media

- **CAUSES:**

- Recurrent, persistent and untreated episodes of acute Otitis media
- Mechanical injuries
- Mastoiditis i.e. long standing inflammation in mastoid
- Poor hygiene and measles



CHRONIC OTITIS MEDIA

- **CLINICAL MANIFESTATION:**

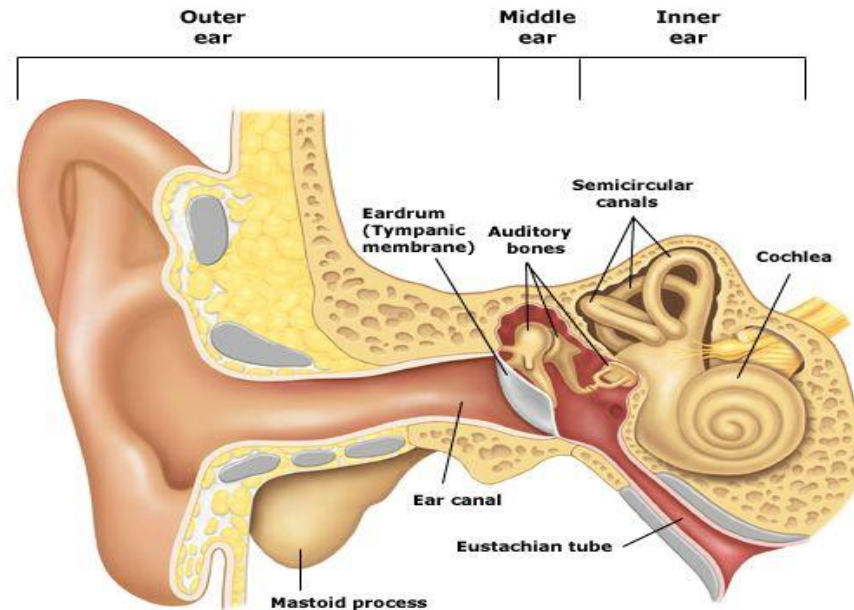
- Persistent blockage or fullness of ear
- Foul smelling ear drainage(otorrhea)
- Hearing loss
- Fever
- Tenderness of mastoid process
- Redness, edema and swelling of middle ear mucosa

- **MANAGEMENT:**

- Topical and systemic Antibiotics.
- Aural toilet: mechanical removal of infectious material from ear especially before the instillation of topical medications
- Myringotomy, Myringoplasty, OR Tympanoplasty

DISORDERS OF INNER EAR

1. HEARING LOSS: Hearing loss also known as hearing impairment is partial or total inability to hear. It may occur in one or both ears.



TYPES OF HEARING LOSS

- **Conductive hearing loss:** It usually results from an external ear disorders. Such as impacted Cerumen, or middle ear disorders, otitis media or otosclerosis.
- **Sensorineural hearing loss:** It is a type of hearing loss, or deafness, in which the root cause lies in the inner ear or sensory organ (cochlea and associated structures) or the vestibulocochlear nerve (cranial nerve viii). This is the most common type of permanent hearing loss.
- **Mixed hearing loss:** Both conductive and sensorineural loss is present resulting from dysfunction of air and bone conduction.

CAUSES OF HEARING LOSS/ DEAFNESS

CONDUCTIVE HEARING LOSS

- Impacted ear wax or foreign body
- Acute, serous and chronic Otitis media
- Otosclerosis
- Injury of the tympanic membrane

SENSORINEURAL HEARING LOSS

- Presbycusis
- Congenital
- Meniere's disease
- Infections, e.g. mumps, herpes zoster, meningitis and syphilis

HEARING LOSS

- **CLINICAL MANIFESTATIONS:**

- Tinnitus and increased inability to hear.
- Student with hearing impairment will be inattentive and uninterested in class.
- Speech deterioration.

- **MANAGEMENT:**

- If hearing loss is temporary then management includes:
- Removal of Cerumen by irrigation.
- Removal of foreign bodies.
- Treating the underlying cause.

If hearing loss is permanent or untreatable :

- **Aural rehabilitation may be beneficial.**

MENIERE'S DISEASE

- It is a disorder that affects the inner ear. It causes vertigo (a sensation of spinning), hearing problems, and a ringing sound in the ear. It usually affects only one ear.
- **CAUSES:**
- Excessive endolymph in vestibular and semicircular canals of inner ear.
- Viral infections
- Allergies
- Medications like Aspirin
- Stress

MENIERE'S DISEASE

- **CLINICAL MANIFESTATIONS:**

- Vertigo and dizziness
- Tinnitus
- Hearing loss or deafness
- Fullness in both ears
- Photophobia
- Nausea and vomiting

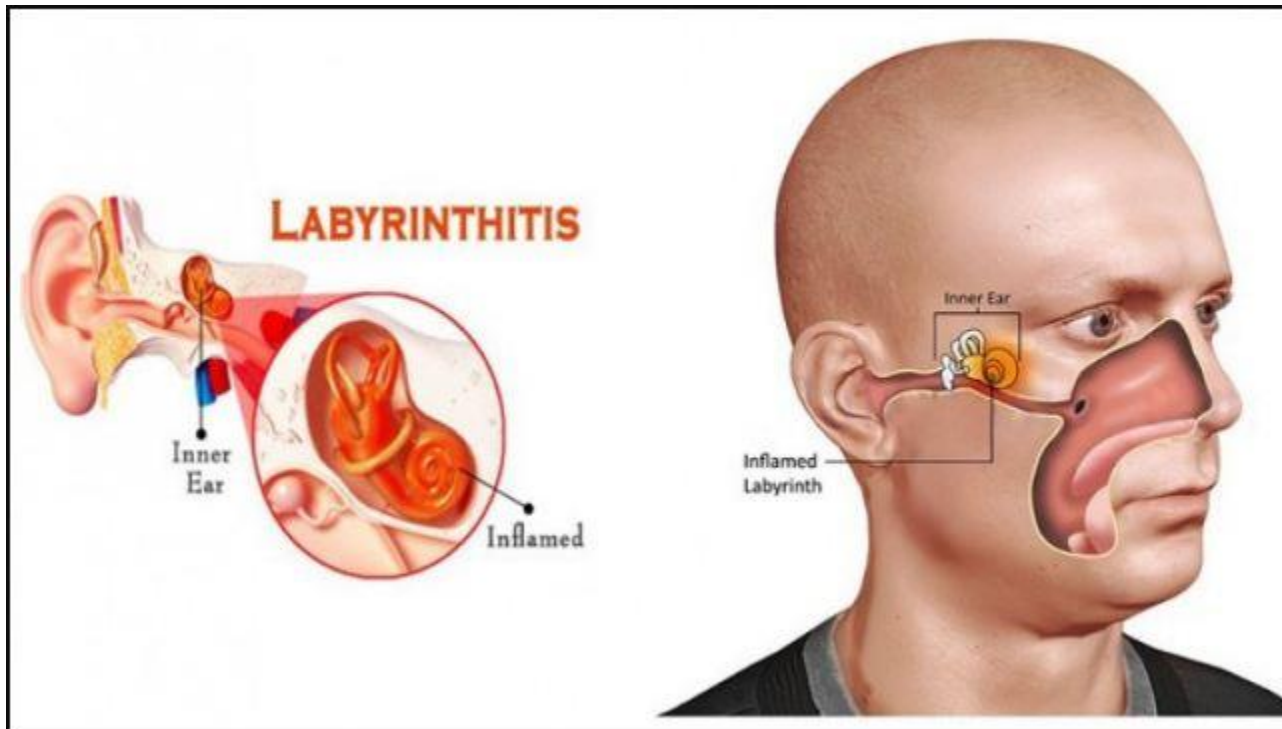
- **MANAGEMENT:**

- Antihistamines, steroids and diuretics are used to relieve the pressure inside inner ear.
- Sedatives and benzodiazepines are helpful in controlling balance.
- Antiemetics
- Low salt diet to reduce fluid accumulation in inner ear
- Smoking and caffeine containing beverages are restricted

LABYRINTHITIS

- It is an inner ear disorder. It occurs when a vestibular nerve becomes inflamed.
- **CAUSES:**
- Acute otitis media and meningitis
- Viral infection, head injury and neoplasm of middle ear or VIII cranial nerve.
- Alcoholism
- Allergy
- Upper respiratory tract infection

LABYRINTHITIS



LABYRINTHITIS

- **CLINICAL MANIFESTATION:**

- Extreme vertigo and dizziness
- Sensorineural hearing loss
- Tinnitus
- Otorrhea
- Otalgia
- Neck pain stiffness
- Cognitive impairment like memory and thinking problems.

- **MANAGEMENT:**

- Antiviral drugs
- Intravenous fluids and antiemetics
- Broad spectrum antibiotics
- Corticosteroids reduce labyrinthine
- inflammation

REFERENCES

- Human Ear disease, George E. Shambaugh, Professor of Otolaryngology, Northwestern University, Chicago. Chief Editor, Archives of Otolaryngology, 1960–70. Author of Surgery of the Ear, May 2017

Available on: <https://www.Britannica.Com/science/ear-disease>

- Introduction to Inner Ear Disorders, MSD Manual Professional, By Lawrence R. Lustig , MD, Columbia University Medical Center and New York Presbyterian Hospital, Oct 2018

Available on: <https://www.msmanuals.com/professional/ear,-nose,-and-throat-disorders/inner-ear-disorders/introduction-to-inner-ear-disorders>