

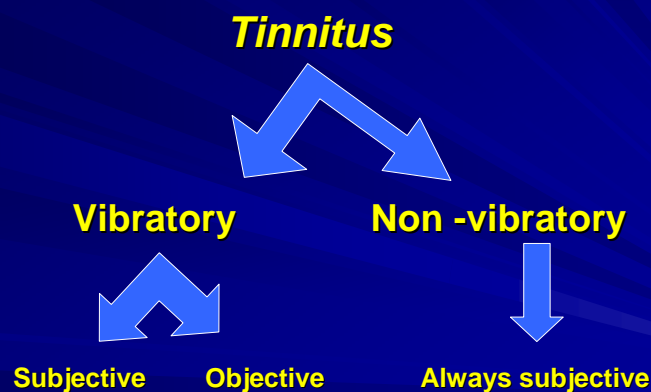


Definition

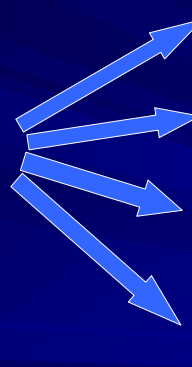
Auditory perception of unwanted sound or noise in the ear without an external sound stimulus.

- Tinnitus is a symptom and is not a disease.
- Tinnitus may be subjective (only heard by the patient), or objective (heard by the patient and others).

Classification



(1) Non vibratory tinnitus

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- It is the most common type .
 - Always subjective .
 - Mechanism unknown (neural excitation within auditory system)
 - May be peripheral or central

Etiology

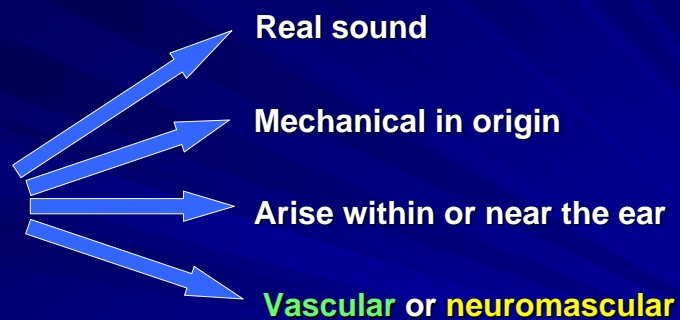
Tinnitus with CHL

- 1- Ear wax.
- 2- TM perforation
- 3- Otosclerosis.
- 4- Middle ear effusion.
- 5- Eustachian tubal dysfunction.

Tinnitus with SNHL:

- 1- Presbycusis.
- 2- Meniere's disease.
- 3- Noise induced hearing loss.
- 4- Drug ototoxicity.
- 5- Acoustic neuroma.

2) Vibratory tinnitus



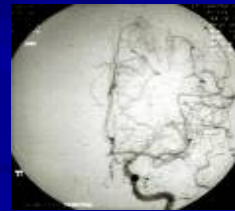
a) Vascular Mechanism (Pulsatile Tinnitus)

Mechanism

Vascular tinnitus is due to either **increase** or **turbulence** in the blood flow. Usually abolished by jugular/carotid vessel compression.

Etiology

- 1- A-V malformation, or aneurysm.
- 2- Vascular tumor: glomus jugulare.
- 3- Aberrant vessel: persistent stapedial Artery.
- 4- Hyperdynamic circulatory states: Thyrotoxicosis, anemia, atherosclerosis.



(b) Neuromuscular Mechanism (muscle contraction tinnitus)

- 1- Colonic contraction of tensor tympani and stapedius muscle

- Clicking sound that can be heard by both patient and examiner
- Faster rate than pulse (40 – 200)
- TM movement which is synchronous with tinnitus .
- Can be altered by conscious effort of the patient

2- Palatal myclonus

- Repetitive contraction of tensor and levator palati muscle
- Usually associated neurological disorder e.g MS , BS

(c) Patulous E.T

Mechanism

Turbulence of nasopharyngeal air of respiration . Usually dt large weight loss

Clinically

- Autophony
- Respiratory movement of tympanic membrane

EVALUATION OF TINNITUS PATIENT

1-Complete history taking

should emphasize on the following:-

- complete description of the tinnitus
- associated manifestations e.g hearing loss
- past history e.g trauma...
- past history of ototoxic drugs

2- Clinical examination

- ENT exam may reveal e.g - wax
 - effusion
- Auscultation of the head and neck may show bruit in vascular tinnitus
- Physical exam e.g anemia

3- Investigation

(a) Audiological investigation

- Basic evaluation (PTA – Tymp)
- ABR

(b) Radiological investigation

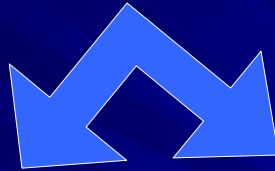
- CT
- MRI

(c) Laboratory investigation

- CBC
- Thyroid

TREATMENT

(1) Treatment of the causes of tinnitus



Medical
e.g SOM
Meniere

Surgical
e.g Otosclerosis

(2) Drugs therapy

1- Local anesthetics e.g Lidocaine

It suppresses tinnitus due to its central effect (not affecting the cochlea).

2- Anti-anxiety e.g Diazepam , Lorazepam

It has beneficial effect on tinnitus , improve patient emotional state and decrease anxiety .

3- Anti-depressant e.g tricyclic

Improve sleep and improve feeling of well being .

4- Vasodilators- Ca channel blockers

(3) MASKER THERAPY

- Types of masker

- 1- simple masker device

- 2- hearing aid only

