

# ACOUSTIC NEUROMA

## (VESTIBULAR SCHWANNOMA)

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### Cases

1. A 40 year old female presented with right-sided tinnitus with no history of vertigo for the last 2 years. On PTA, there is sensorineural hearing loss of high frequency in the right ear. Tympanic membrane is normal.
  2. A 40 year old female presented with unilateral tinnitus and hearing loss. Audiometry shows high-frequency hearing loss. Patient had vertigo 2 months ago. Tympanic membrane is normal.
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### Diagnosis

- Acoustic Neuroma (Vestibular Schwannoma)

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## Management

### History and Examination

- Age group: 40–60 years
- Gradual, progressive unilateral deafness
- Unilateral tinnitus
- Vestibular symptoms: imbalance or unsteadiness
- Marked difficulty understanding speech
- Trigeminal nerve involvement: facial pain, numbness, loss of corneal reflex (earliest affected)
- Facial nerve involvement: Hitzelberger sign, loss of taste, reduced lacrimation, delayed blink reflex
- 4th & 10th nerve: dysphagia, hoarseness
- Cranial nerves 3, 4, 11, 12 affected only with very large tumors
- Brainstem involvement: ataxia, weakness/numbness of limbs, exaggerated reflexes
- Cerebellar involvement: dysdiadochokinesia, ataxic gait, falling tendency

- Raised ICP: headache, nausea, vomiting, diplopia, papilledema
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## Investigations

- Audiological tests:
  - PTA: SNHL, high frequencies more affected
  - Speech audiometry: poor speech discrimination, "rollover phenomenon"
- Brainstem evoked response audiometry (BERA): 95% sensitive; interaural delay  $>0.2$  ms significant
- Stapedial reflex decay test
- Vestibular tests: caloric test  $\rightarrow$  diminished/absent response
- Imaging:
  - MRI with gadolinium (gold standard)
  - CT scan  $\rightarrow$  temporal bone erosion
  - X-rays (transorbital, Stenvers, Townes, submentovertical)
  - Vertebral angiography if needed

- CSF exam: increased protein
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## Treatment

- Surgery:
    - Middle cranial fossa approach
    - Translabyrinthine approach
    - Suboccipital (retrosigmoid) approach
    - Combined translabyrinthine-suboccipital approach
  - Radiotherapy:
    - Conventional radiotherapy
    - Gamma Knife / X-Knife / CyberKnife
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## Tuning Fork Test Results

- SNHL unilaterally (Rinne: negative on affected side, Weber: lateralized to unaffected ear)
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-> The End <-