Meniere’s Disease
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Background
Meniere’s disease (MD) is an idiopathic condition characterised by episodes of vertigo, hearing loss and tinnitus or ear pressure. The aetiology is unknown and multiple theories have been proposed; abnormal fluid regulation, channelopathies, immune mediated, allergy/inflammation, vascular pathology, genetics and environmental factors.

Diagnosis
The condition is defined by 2015 clinical criteria\(^1\):

- **“Definite”**
  - 2+ attacks of vertigo 20 min to 12 hours
  - SNHL >30 dB, 2 contiguous freq below 2KHz, during/after attack
  - Fluctuating aural symptoms (hearing loss, tinnitus or fullness)
  - No other cause identified

- **“Probable”**
  - 2+ attacks of vertigo or dizziness 20 min to 24 hours
  - Fluctuating aural symptoms (hearing loss, tinnitus, fullness)
  - No other cause identified

Tests:
- Pure tone audiogram: essential in order to diagnose associated low frequency hearing loss.
- MRI: may be useful (especially in refractory cases or before ablative treatment) to rule out unusually pathologies such as acoustic neuroma/CPA tumours and endolympathic sac tumour.
- Vestibular tests: lack overall sensitivity and specific for MD, but may help determine if the pathology is vestibular or not. Considered mandatory prior to ablative treatment to ensure contralateral vestibular system is functioning.

Major differential diagnosis is vestibular migraine. This is 20 times more prevalent and may be co-existent with MD.

Treatment
Acute attacks are managed with oral or buccal prochlorperazine (Stemetil\(^{TM}\), Buccastem\(^{TM}\))
Vestibular rehabilitation / physiotherapy may aid compensation from chronic loss of vestibular function\(^2\)
Audiological support (hearing therapy; hearing aids, cochlear implants) may help hearing function
Long term management involves an attempt to reduce frequency and severity of attacks.

- **Dietary modification** (low salt, low caffeine, low alcohol)
  - Lacks high quality evidence but usually recommended due to minimal risk.

- **Betahistine**
  - Lacks high quality data. Recent RCT (with placebo arm) shows no benefit.

- **Thiazide diuretics**
  - Lacks high quality data. Historic RCTs show possible benefit.

- **Intratympanic steroid injections**
  - Recent RCT show favourable results; equivalent to intratympanic gentamicin but without risk of hearing loss.

- **Intratympanic gentamicin injections**
  - Supported by evidence with good control of vertigo.
  - Some risk of hearing loss (up to 25% in some studies but much less in others).

- **Endolymphatic sac decompression**
  - Preserves hearing. High control rate (80%).
  - Unclear from studies if this is placebo effect.

- **Labyrinthectomy or vestibular nerve section**
  - Usually reserved for highly refractory cases. Good control rate (90%+).
  - Labyrinthectomy sacrifices hearing.
  - Vestibular nerve section involves intradural approach with small risk to hearing and facial nerve.
  - No controlled studies.

**Other considerations**

Meniere’s disease appears to have a high placebo / no treatment control rate. The condition usually “burns out” after many years. This may result in drop attacks (Tumarkin otolithic crisis).

**e-lefENT / additional reading**

http://www.e-lefent.org.uk/the-learning-zone/node/3382

**References**