Headmirror's ENT in a Nutshell
Glomus Tympanicum
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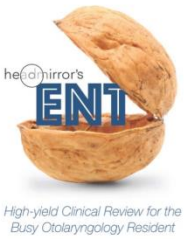


Presentation (0:30)
- Symptoms
  - Pulsatile tinnitus (80%)
  - Conductive hearing loss
  - Bloody otorrhea (less common)
  - Cranial neuropathy is not typically seen (more consistent with jugular paraganglioma)
- Physical Examination
  - Retro-tympanic mass with deep red hue
  - Brown's sign – reddish hue turns brown on pneumatic otoscopy
- Demographic
  - 40-60s with slight predilection toward women (3:1)
  - Can be associated with familial paraganglioma syndrome (AD succinate dehydrogenase mutation), MEN2A, MEN2B, von Hippel Lindau, NF1
    - Not as strongly as jugular paraganglioma, glomus vagale, carotid body tumors
- Differential diagnosis
  - Facial nerve schwannoma
    - white or light pink appearance – posterior quadrant
  - Large encephalocele from tegmen tympani
    - deep purple hue – pedicled superiorly
  - Aberrant carotid artery
    - Anterior-inferior location
  - High jugular bulb
    - Posterior-inferior location
  - Chronic otitis media with polyp

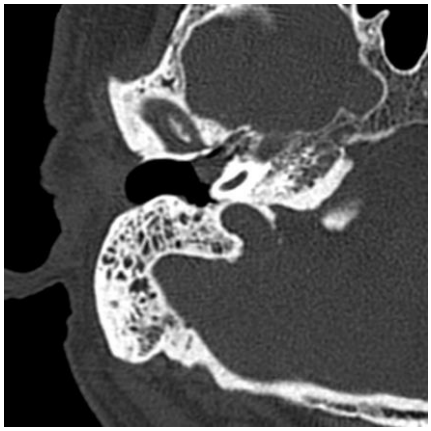
Pathophysiology (4:05)
- Cells derived from the paraganglioma, non-chromaffin staining chief cells.
  - Clusters or nests called Zellballen
  - Arise from jugular paraganglioma adventia of jugular bulb
    - Tympanic plexus from Jacobson's nerve (CN IX) or Arnold's nerve (CN X)
- Blood supply to tumor is typically from tympanic artery from ascending pharyngeal

Workup (5:50)
- History and physical exam should give you high level of suspicion
- Imaging
  - Temporal bone CT scan
    - Determine extension and rule out jugular paraganglioma
  - MRI typically not required

        - Flow voids or “salt and pepper” seen on T2 or T1 post gadolinium, avidly enhance with gadolinium
- Laboratory / genetic testing
    - Isolated glomus tympanicum do not need routine catecholamine testing unless symptomatic (headache, hypertension, flushing)
    - Isolated glomus tympanicum typically do not undergo genetic testing
- Classification System
    - Glasscock-Jackson (Glomus tympanicum)
        - Stage 1: All tumor margins visible on otoscopy
        - Stage 2: Tumor fills middle ear and margins are not visible
        - Stage 3: Tumor extends into mastoid cells
        - Stage 4: Tumor erodes through tympanic membrane or bone of the external auditory canal
    - Fisch Classification
        - Type A – small tympanicum
        - Type B – involves middle ear and mastoid
        - Type C-D are not applicable to glomus tympanicum

Treatment (11:00)

- Surgery
    - Low morbidity, high cure rate, low recurrence (<5%)
    - Goal is gross total resection
    - Surgical approaches (from least to most extension)
        - Transcanal tympanomeatal flap
        - Post-auricular transcanal approach with canalplasty
        - Tympanomastoidectomy approach with intact canal wall +/- facial recess or extended facial recess
        - Subtotal petrosectomy with ear canal closure
    - Do not recommend radiotherapy
    - Pre-operative angiography or embolization is typically not performed
    - Clinical examination with otoscopy is adequate for surveillance



Right-sided glomus tympanicum (Source: https://radiopaedia.org/)