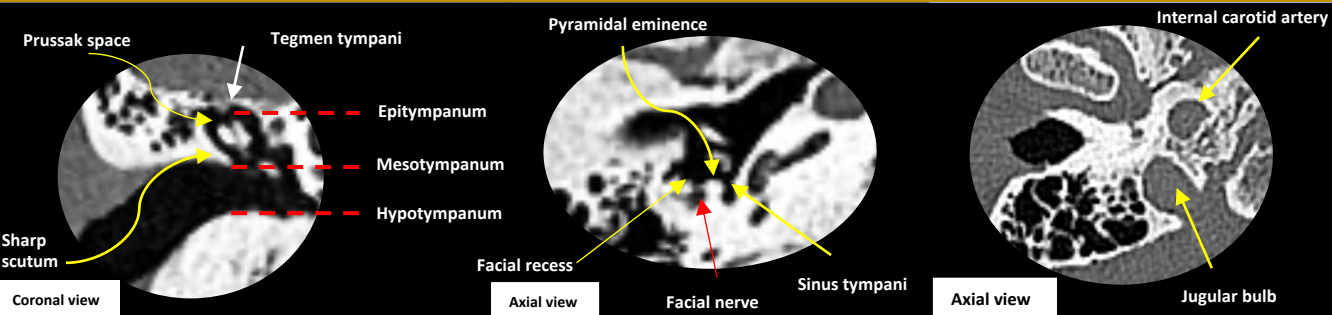


# Pictorial Review of Soft Tissue Lesions in Middle Ear on Temporal Bone CT

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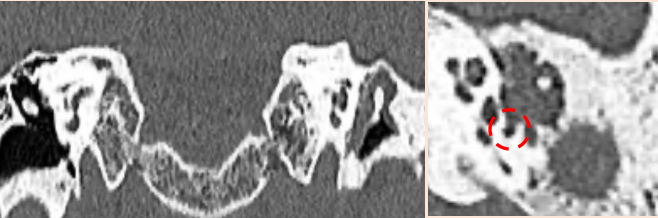
**Objective:** Soft tissue density in middle ear is a common imaging finding of various middle ear pathologies on HRCT of temporal bone. Thorough understanding of the anatomy is the key to reach correct diagnosis. This pictorial review highlights important structures in middle ear, and aims to showcase various diseases and vascular variants presenting as soft tissue density to refresh our knowledge.

## Important Structures in Middle Ear and Normal Adjacent Vessels



### Cholesteatoma

- Case with known cholesteatoma. CT showing soft tissue density in middle ear. Associated erosion of ossicles and blunting of scutum are noted
- Sinus tympani is involved, which is most hidden recess of middle ear. Important for surgeon as adequate removal prevent residual disease



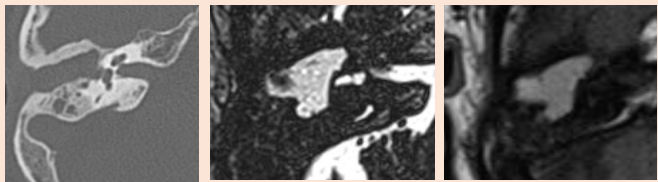
### Chronic Otitis Media

- Known background of chronic otitis media. Exam under microscope (EUM) shows right pars tensa perforation with hard crust
- CT shows densities in middle ear with intact ossicles. Sclerosis and hypopneumatized mastoid suggestive of chronic process
- Importance of clinical information to reach diagnosis



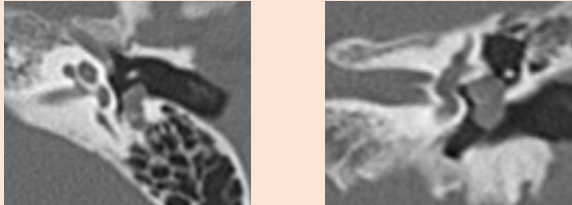
### Cholesterol Granuloma

- History of right mastoidectomy for cholesteatoma long time ago. EUM shows stable blue-domed lesion
- MRI shows T1 and T2 bright lesion without enhancement or restricted diffusion



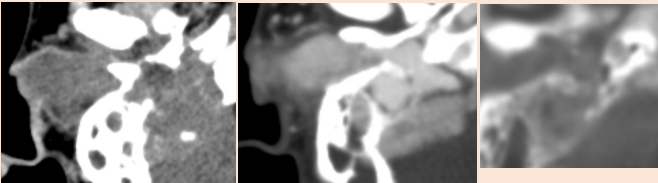
### Facial Nerve Schwannoma

- Clinically with small pinkish mass deep to posterior aspect tympanic membrane
- CT shows soft tissue lesion arising anterior to facial recess



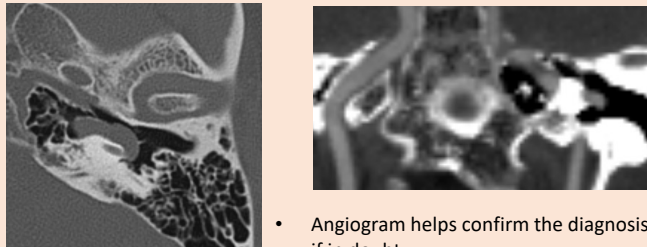
### Glomus Tumor

- Avidly enhancing lesion epicenters at jugular bulb with extension into middle ear; Associated bony destruction seen
- Characteristic "salt and pepper" flow void can be seen on MRI



### Aberrant Internal Carotid Artery

- Angiogram helps confirm the diagnosis if in doubt



**Conclusion:** It is not uncommon to see soft tissue density in middle ear on CT temporal bone in our daily practice. Knowledge on common pathologies and careful evaluation of preservation of normal structures aids in making correct diagnosis.