

Cholesterol Granuloma

- AKA cholesterol cyst, chocolate cyst
- Need pneumatized air cells, obstructed, inflammatory response, repeated bleeding
- Best imaging clue: Hi T1 and T2 in EXPANSILE petrous apex mass, T2 can have peripheral hemosiderin stain

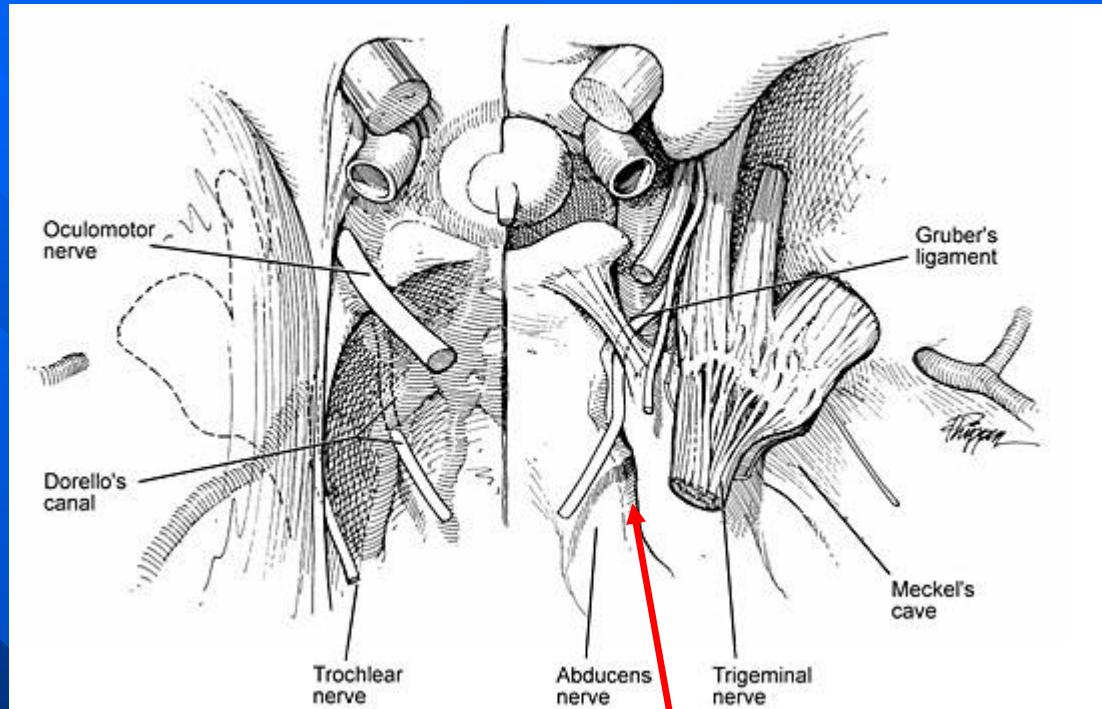
Radiographic DDX:

- Cholesterol granulomas
- Mucocele at the petrous apex
- Petrous apicitis, which can cause Gradenigo syndrome: 6th nerve palsy and facial pain, 5th nerve in Dorello's canal

! Don't include acquired cholesteatomas b/c these aren't bright on T1.

Dorello's canal

- channels the abducens nerve (CN VI) from the pontine cistern to the cavernous sinus.



Dorello's canal

DDX:

- **Asymmetric Fatty Marrow**

- Nonexpansile, use fat sat to exclude

- **Mucocele of PA**

- Expansile, can be Hi T1 and T2 depending on protein content, generally lower T1, should not have hemosiderin rim

- **Congenital Cholesteatoma aka Petrous Apex Epidermoid**

- Expansile, generally low T1, hi T2, + on DWI

- **Others:**

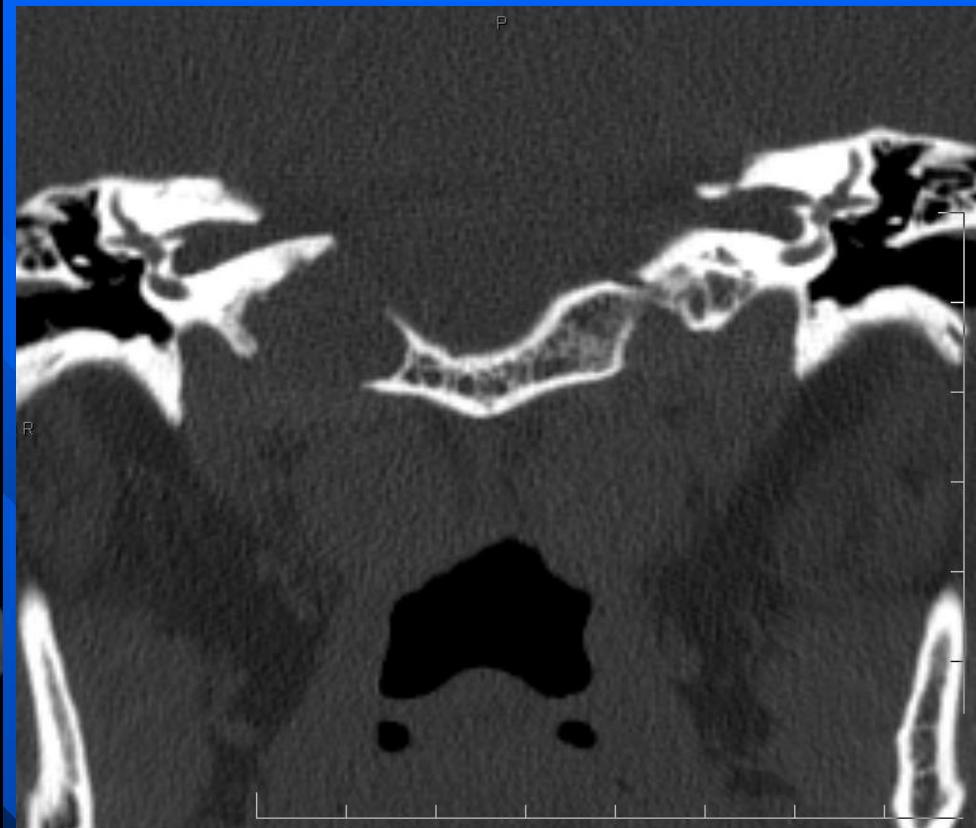
- Trapped fluid petrous apex, apical petrositis, petrous ICA aneursym, neoplasm eg assymmetric chordoma, chondrosarcoma, mets

- channels the abducens nerve (CN VI) from the pontine cistern to the cavernous sinus.

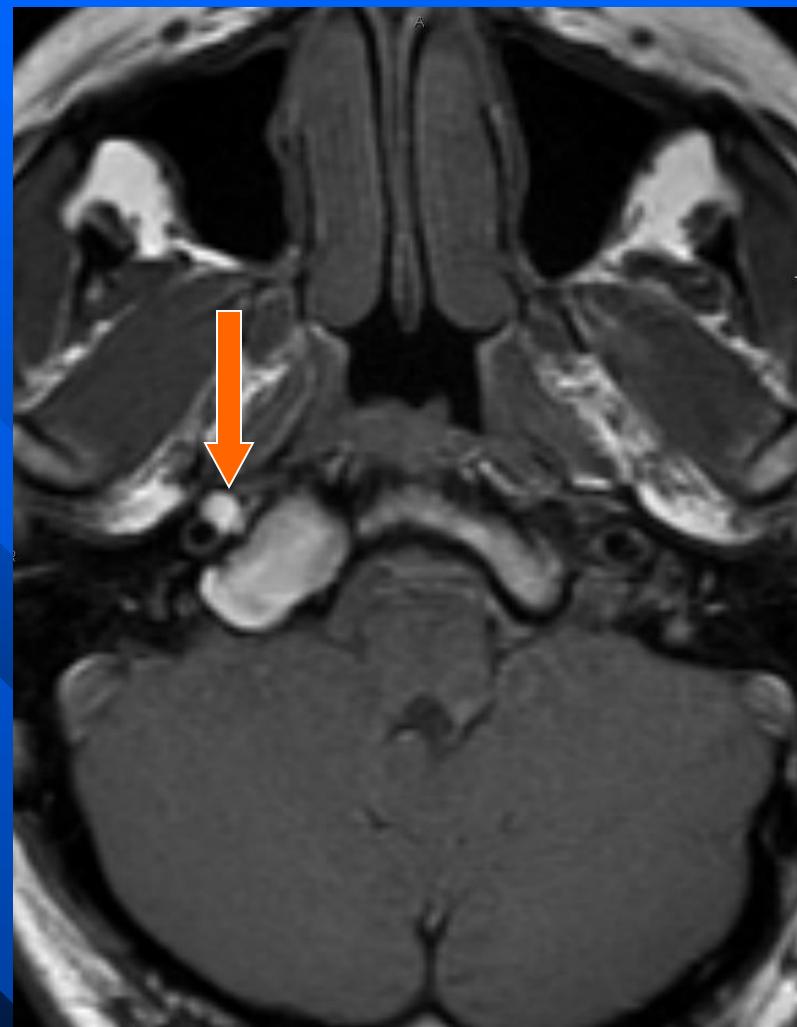
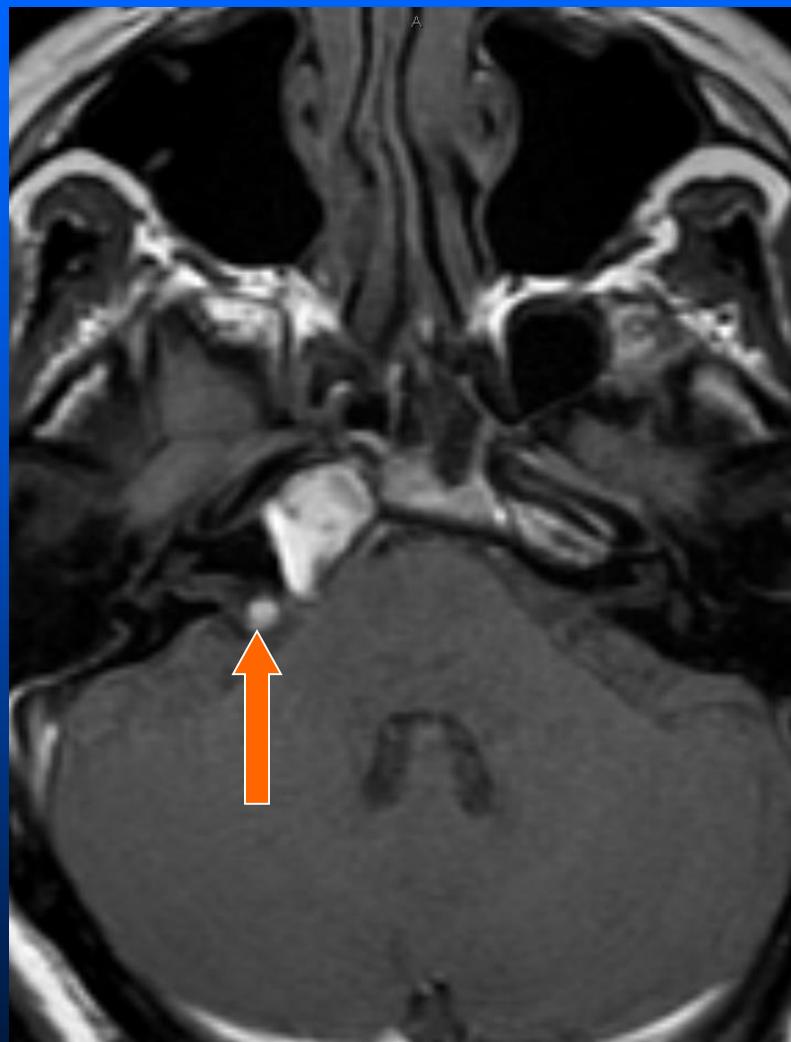
Cholesterol Granuloma

- Hyperintense on T1- “smoky” appearance
- T2-Can be hyperintense or markedly heterogeneous
- NOT fat signal
- No internal enhancement
- Well circumscribed bony margins
- May be lobulated or cauliflower-like

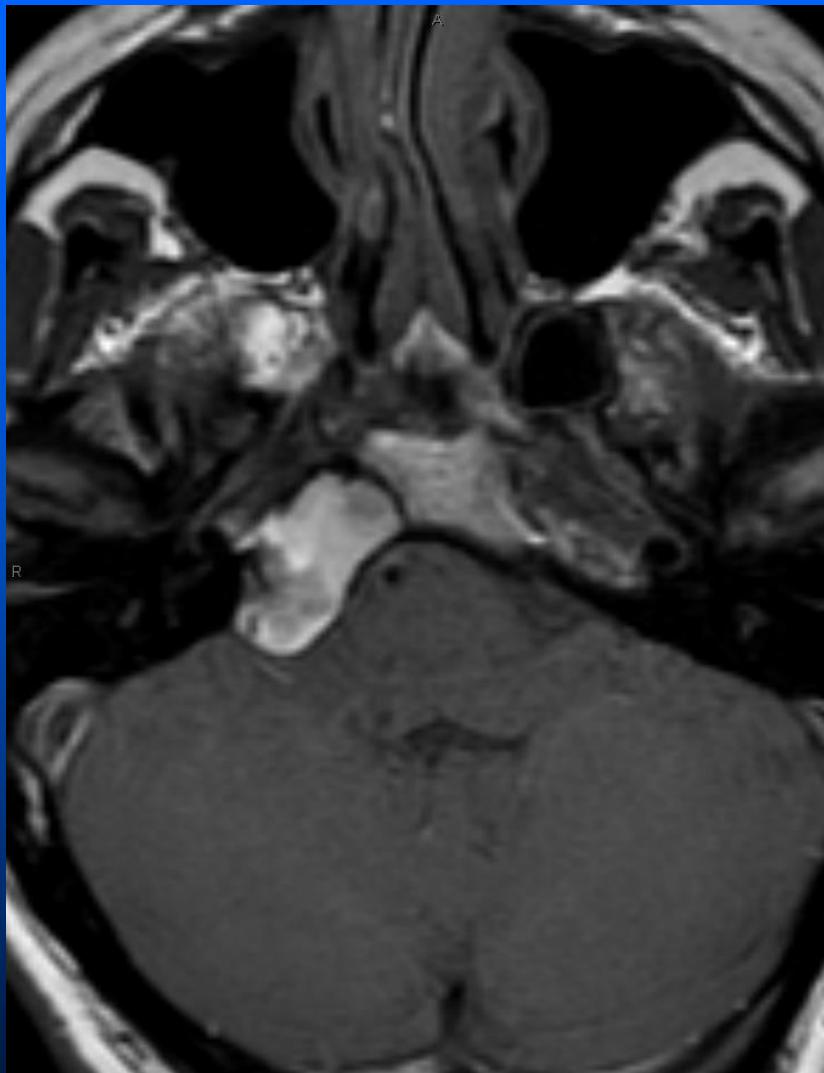




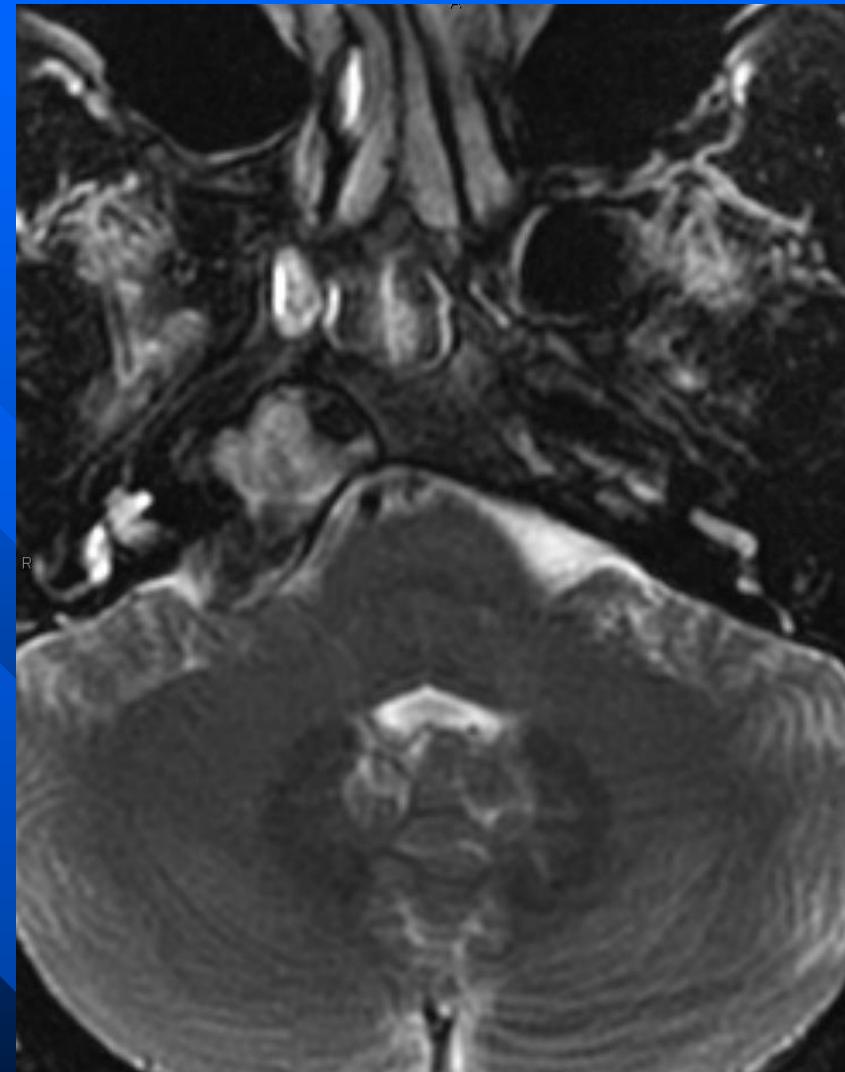
T1 Noncontrast



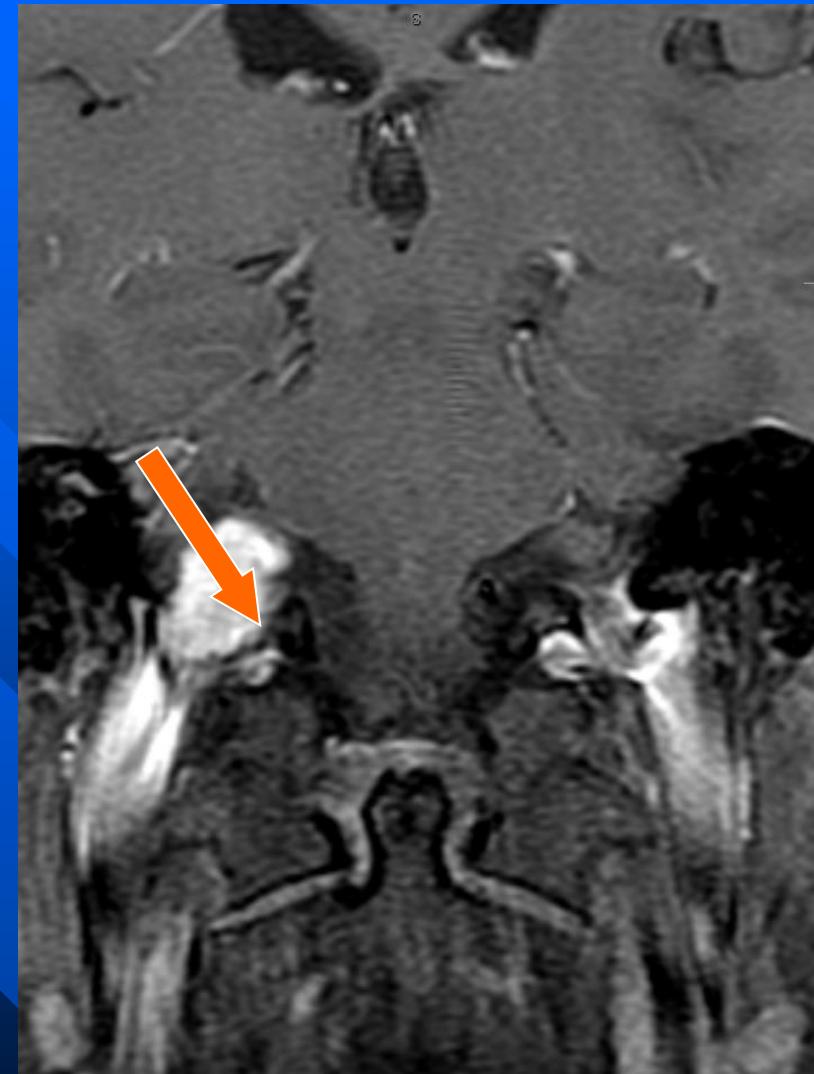
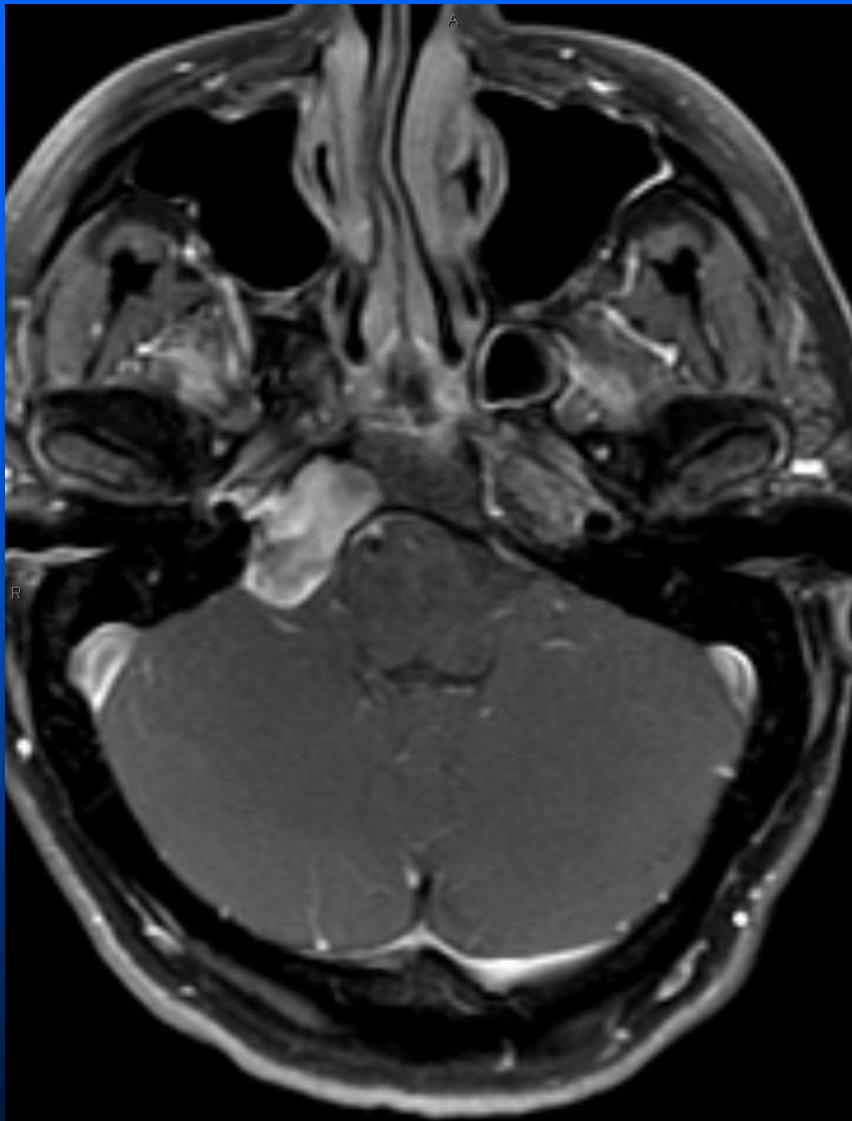
T1



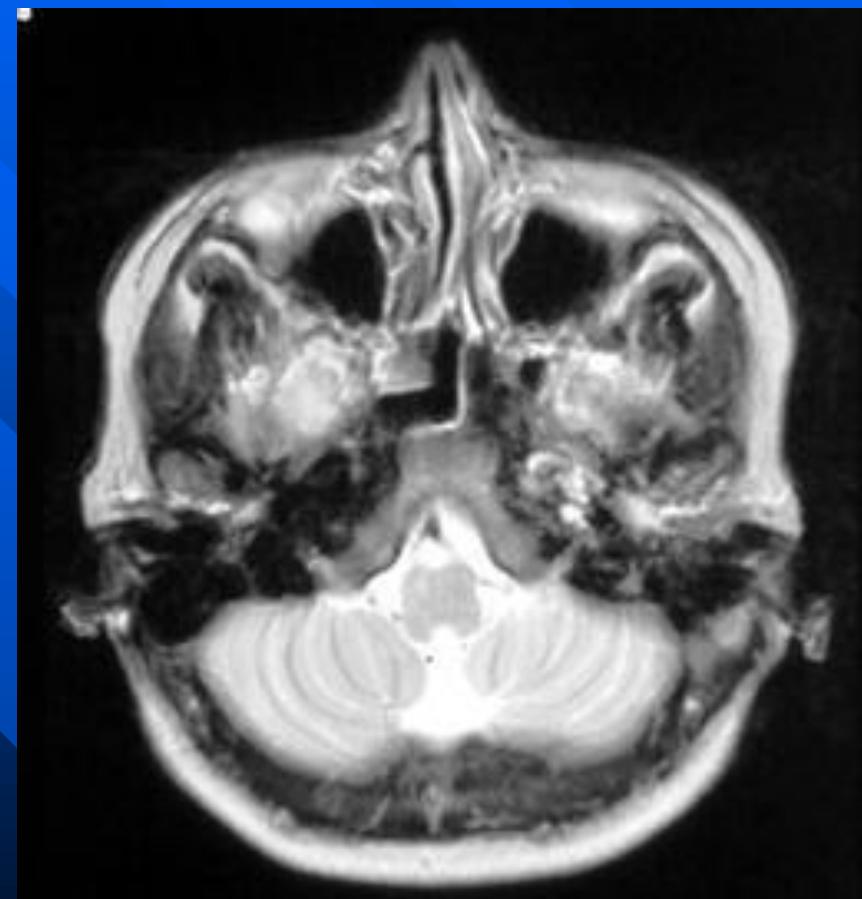
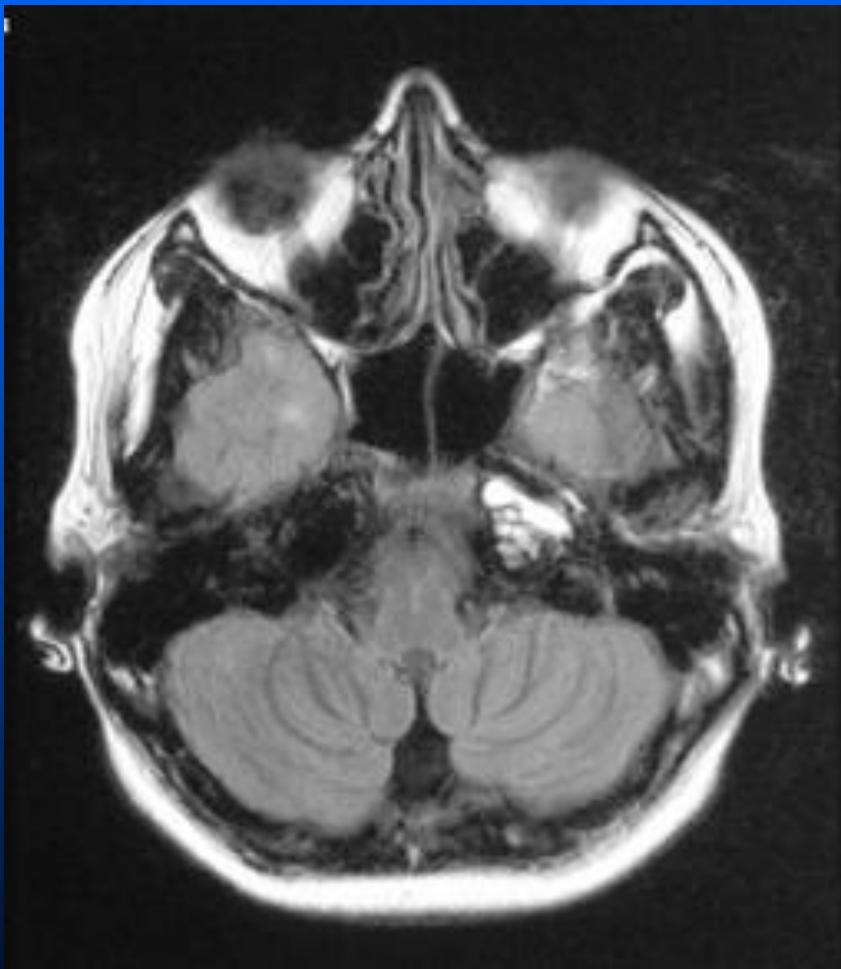
T2



Post gad



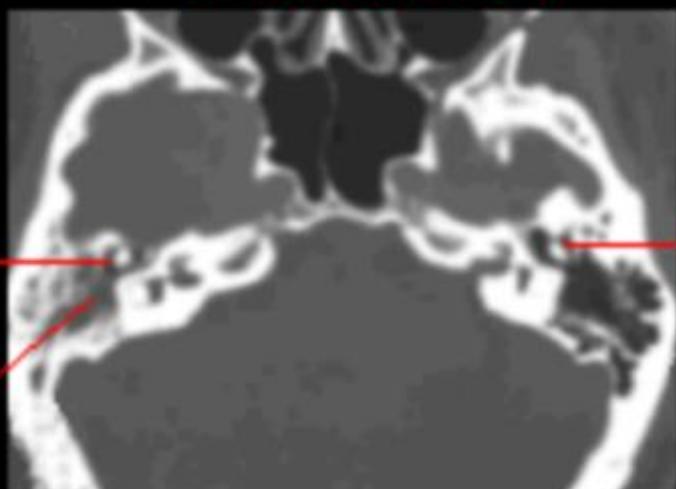
Cholesterol granuloma petrous apex



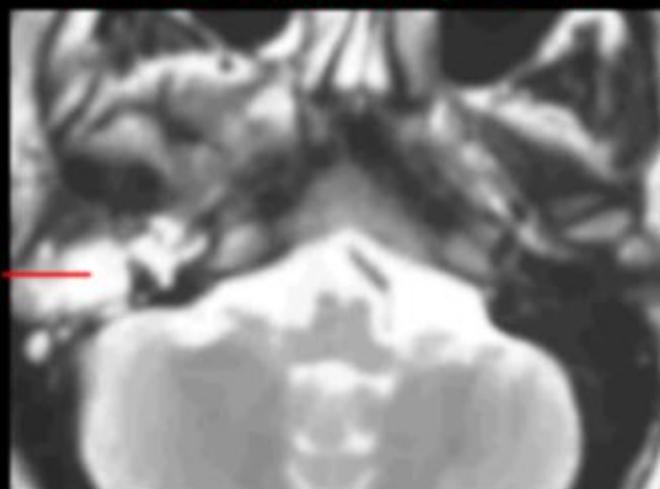
Cholesterol Granuloma Petrous Apex



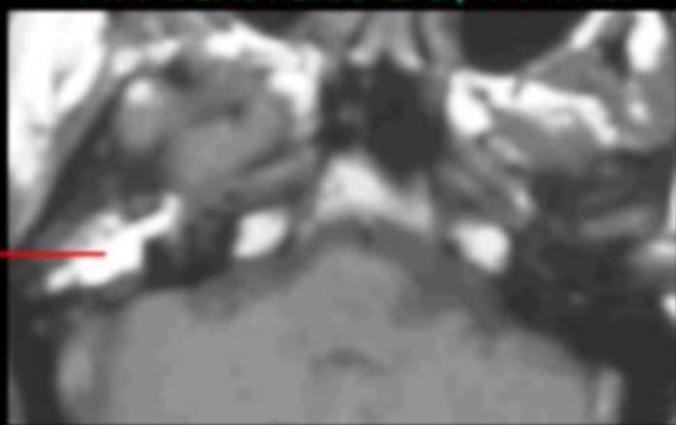
CT transverse C-S



MR transverse C-S, T2W.I.



MR transverse C-S, T1W.I.



MR transverse C-S,
T1W.I., i.v. gadolinium

