

# Case Report: Temporal Fibrous Dysplasia Complicated by Cholesteatoma and Abscess

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## Case Presentation

- 65 year old male referred to neurotology clinic
- 4-month history of left otalgia, occasional otorrhea
- Physical examination:
  - Asymmetric expansion of left temporal area
  - Left ear canal obstructed with bony mass
  - Facial nerve function intact (House-Brackmann 1/6)
  - All cranial nerves intact
- CT temporal bones obtained (Figure 1):
  - Expansion of the diploic area of left temporal squama
  - Dehiscence of outer table of temporal squama
  - Ground-glass and cystic growths in temporal bone
  - Opacified tympanic cavity
  - Obliteration of external auditory canal
  - Dehiscence of temporomandibular joint
  - Normal inner ear structures
- MRI temporal bones obtained (Figure 2):
  - Multifocal cystic areas within temporal bone
  - 4x3cm T2 hyperintense cyst with restricted diffusion
  - Cysts with rim enhancement on T1 post-contrast
  - 2x2cm rim-enhancing collection in soft tissues
- **Diagnosis: monostotic fibrous dysplasia of left temporal bone with cholesteatoma and supra-imposed abscess**
- Admitted to hospital for fever, otorrhea
- IV antibiotics started
  - vancomycin, piperacillin-tazobactam
- Surgery for mastoidectomy, approach toward middle cranial fossa, ear canal overclosure
  - Entire mastoid and squamous temporal bone filled with pus and cholesteatoma
  - Dehiscence in descending facial nerve, posterior fossa floor, sigmoid sinus
  - Facial nerve was intact

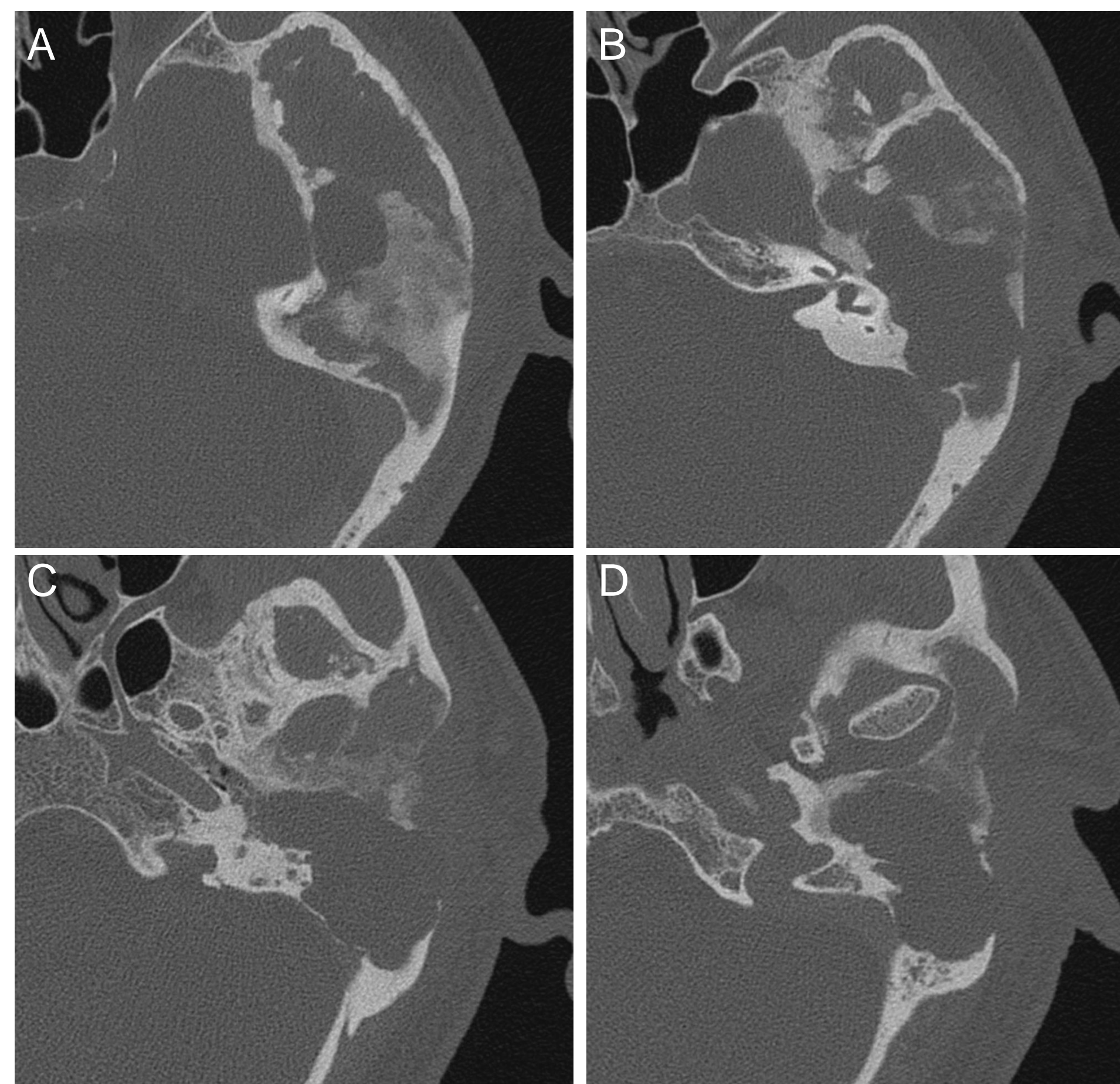


Figure 1. Axial cut images from non-contrast CT scan of the temporal bones at the level of A) dome of superior semicircular canal; B) internal auditory canal; C) carotid canal; and D) temporomandibular joint

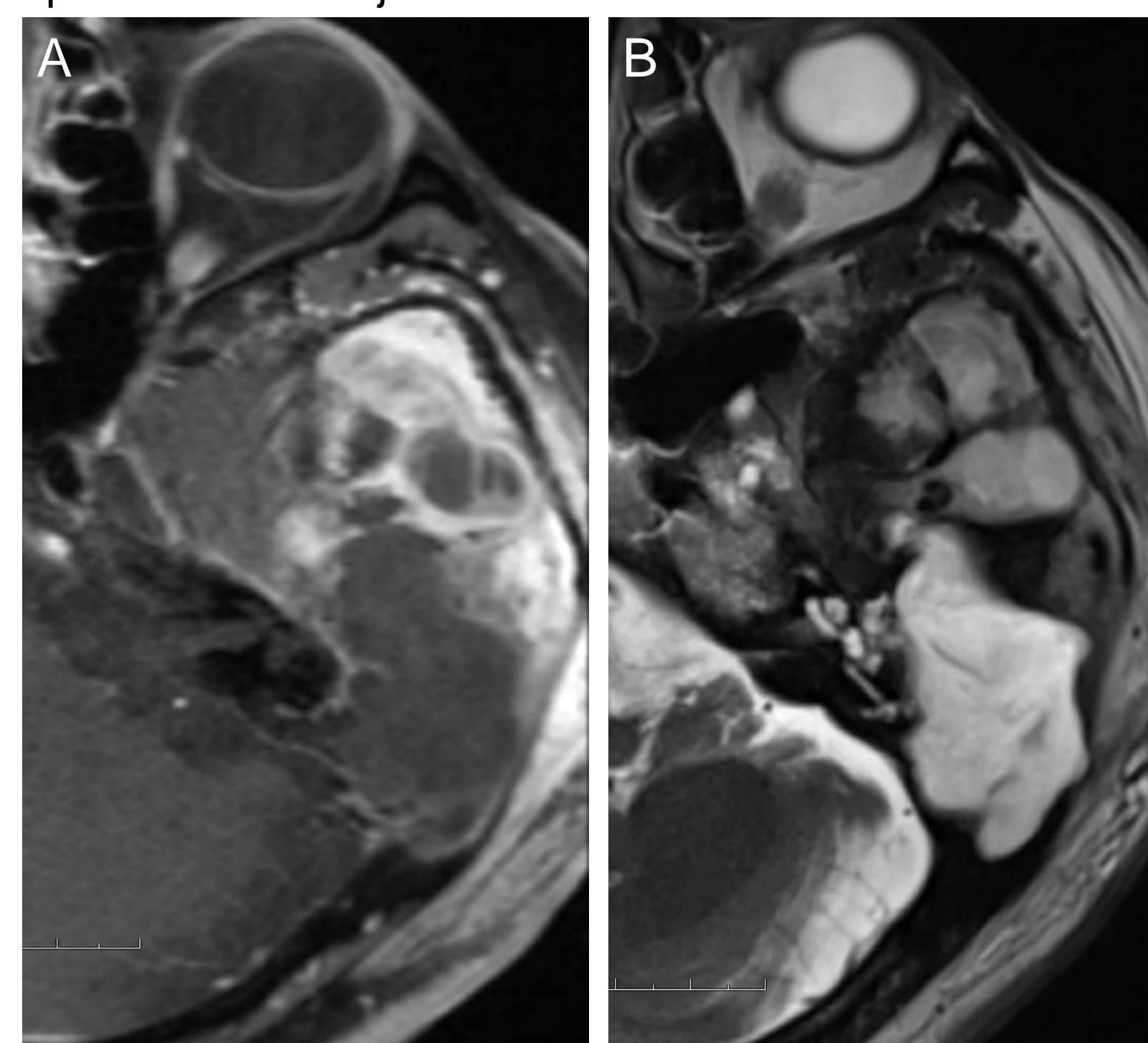


Figure 2. Axial cut images of MRI temporal bones. A) T1-weighted post-contrast and B) T2-weighted

## Results

- **Pathology: fibrous dysplasia and cholesteatoma**
- Culture: *S. epidermidis*, Diphtheroids, Actinomyces
- Infectious disease consultation obtained
  - 2 month course doxycycline
  - 6 month course amoxicillin-clavulanate
- Discharged post-operative day 5
- Repeat MRI 6 months post-op (Figure 3)
  - **No cholesteatoma recurrence noted**

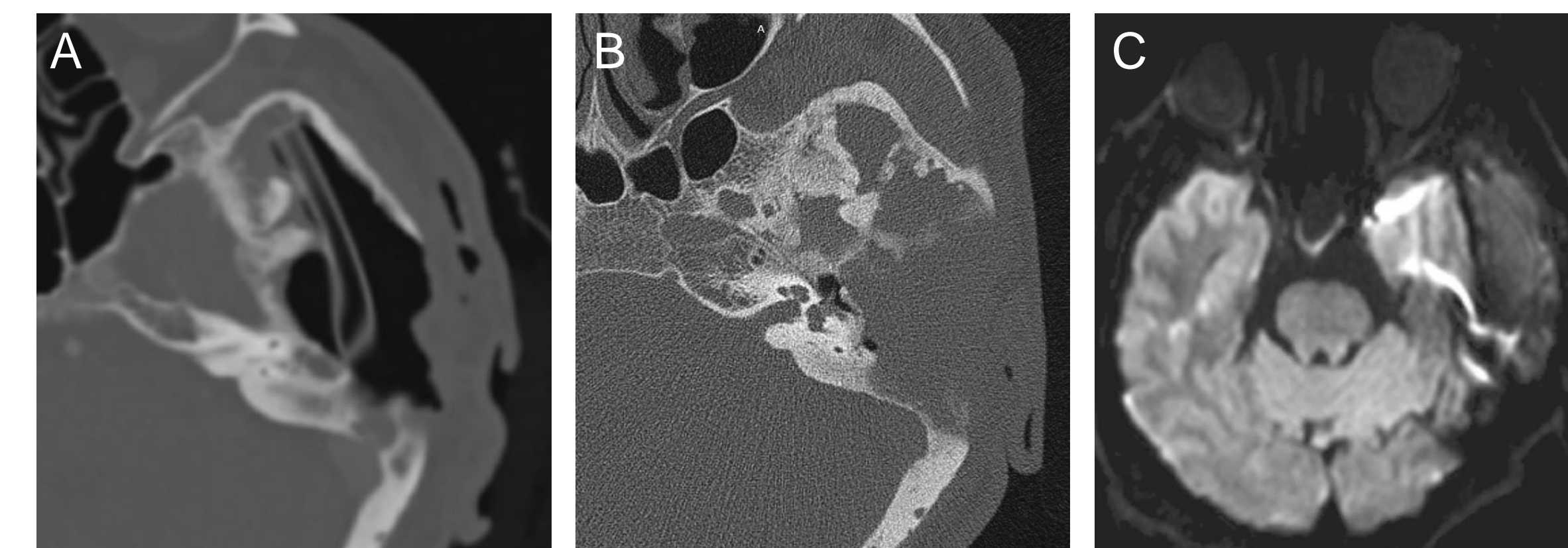


Figure 3. A) Post-operative day 1 axial CT image after evacuation of debris within temporal bone cavity. A Penrose drain is in the cavity. B) 3-month post-operative axial CT image showing no significant regrowth of ground glass lesions. C) 6-month post-operative axial MR diffusion-weighted imaging showing no cholesteatoma recurrence.

## Discussion

- Fibrous dysplasia of the temporal bone is rare
- Often temporal bone fibrous dysplasia is not symptomatic
- Hearing loss and headache are most common symptom
- Cosmetic deformity and ear canal stenosis are common exam findings
- Entrapment of squamous tissues can cause cholesteatoma
- This is a rare case of extensive cholesteatoma caused by large-scale remodeling due to fibrous dysplasia presenting with acute infection

## References

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