

Recurrent Postauricular Abscess: A Clue to a First Branchial Cleft Anomaly

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CLINICAL DATA

A 6-year-old girl presented with a painful swelling of 1 week duration in the right postauricular region. Her medical history was significant for recurrent abscesses at the same anatomical site since age 2y, each previously treated with simple incision and drainage (I&D) and systemic antibiotics. On examination, cystic, fluctuant, tender swelling 4cmx2cmx2cm below and behind right ear lobule, pushing the lobule upwards (**Figure A**). There was no parotid region swelling. Right upper deep cervical and submandibular lymph nodes enlarged, tender. There was no history of chronic ear discharge or hearing impairment. Contrast-enhanced computed tomography (CECT) of the neck and temporal bone was performed to delineate the extent of the infection and rule out otogenic complications. The scan revealed a well-circumscribed, peripherally enhancing hypodense collection (abscess) in the right postauricular soft tissues seen in intimate superior relation to the right parotid gland, in posterior relation to the right mandibular condyle and in antero-lateral relation to the carotid space (**Figure B**). The mastoid air cells were well-pneumatized and clear, effectively ruling out acute coalescent mastoiditis. The patient underwent urgent I&D and antibiotic treatment. Following evacuation of the purulent material, a persistent sinus tract was identified within the abscess cavity (**Figure C**). This finding, combined with the history of recurrence, was highly suggestive of a First Branchial Cleft Anomaly. Once the acute infection subsided, the patient is scheduled for formal surgical excision of the tract.

DISCUSSION

Postauricular abscesses in children are often a “red flag” for mastoiditis; however, recurrence at the same site should prompt a search for a congenital anomaly. First branchial cleft anomalies are rare (less than 10% of all branchial cleft defects) and more common in females. First branchial cleft Work Type II anomalies typically present as a cyst, sinus, or fistula near the



Figure A. Clinical picture of postauricular abscess

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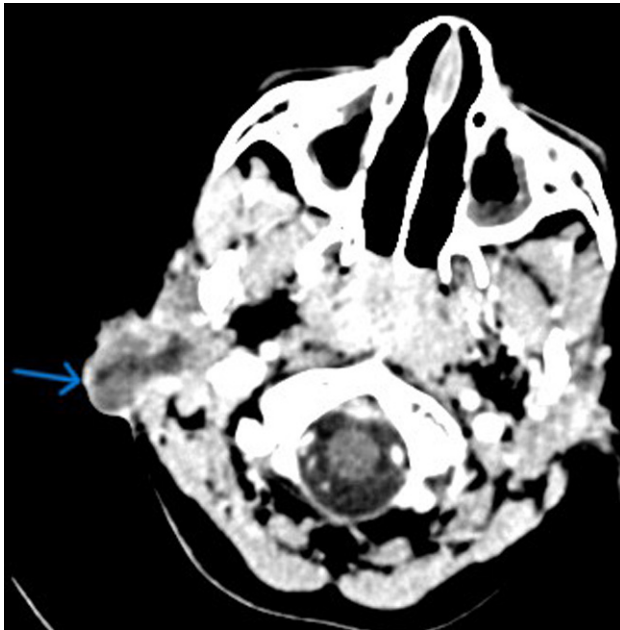


Figure B. CECT scan axial view

angle of the mandible or the postauricular region.¹ It is closely associated with the cartilaginous external auditory canal. The diagnostic challenge lies in their mimicry of common infections. Simple I&D provides only temporary relief because the epithelial-lined tract remains. As seen in this case, the post-evacuation visualization of a sinus is a pathognomonic clinical sign. CECT is essential not only to exclude mastoiditis but to map the tract's relationship to the parotid gland and facial nerve, which is vital for safe surgical excision. Definitive treatment requires complete excision of the tract, often including a portion of the external auditory canal cartilage, to prevent recurrence.

Lessons for readers

1. **Suspect Congenital Anomaly:** Recurrence of a postauricular abscess in a child with a “clean” middle ear history is a First Branchial Cleft Anomaly until proven otherwise.
2. **Imaging is Key:** CECT is the gold standard to differentiate between mastoiditis (bone involvement)



Figure C. Sinus 7days post treatment of abscess

and branchial anomalies (soft tissue tract).

3. **Repeat I&Ds alone not sufficient:** Repeated drainage of a congenital sinus increases scarring, making definitive surgical excision and facial nerve preservation more difficult.

END NOTE

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