

Abscess of Zygomatic Root: A Rare Otogenic Complication

Yao Qin, Tian-Cheng Li, Tie-Chuan Cong, Yu-He Liu

Department of Otolaryngology Head and Neck Surgery, Peking University First Hospital, Beijing 100034, China

To the Editor: Zygomatic root abscess is a rare extracranial otogenic complication. Atypical otogenic symptoms and lack of awareness are responsible for misdiagnosis. Here, we presented a case of zygomatic root abscess resulting from an acute attack of masked mastoiditis.

A 10-year-old girl had a history of tenderness of the right temporal area for 6 months. Physical examination revealed only swelling of the right temporal fossa. No otogenic syndrome was found. Since antibiotic therapy alone was ineffective, the girl was admitted to the tumor hospital and then Peking University Dental Hospital. The pathological finding of fine-needle aspiration biopsy was inflammation. Computed tomography (CT) showed thickened soft tissue around the temporal area [Figure 1a]. Magnetic resonance imaging (MRI) showed that there was soft-tissue mass in her right zygomatic root area. The swelling and erythematous area in the zygomatic root area worsened. A subepidermal retroauricular abscess formed, and she underwent abscess drainage [Figure 1d]. She was then transferred to our department. A hearing test revealed slightly conductive hearing loss in the right ear. CT scan was rechecked and showed soft tissue in the right mastoid and tympanic cavity, with an irregular osteolytic area involving tympanic cavity, zygomatic root, and zygomatico temporal junction [Figure 1b]. Finally, we made a diagnosis of zygomatic root abscess resulting from an acute attack of masked mastoiditis. The girl underwent mastoidectomy and intravenous antibiotic therapy. Three months postoperatively, her hearing had returned to normal, and CT scan showed that the temporal bone had recovered well [Figure 1c].

In theory, the formation route of zygomatic root abscess was first noted by Bezold in 1908.^[1] It has rarely been reported in literature and patients usually got acute otitis media.^[2-4] In the case, due to atypical symptoms and unfamiliarity with zygomatic abscess, the child had been misdiagnosed for 6 months.

A subperiosteal abscess is reported to be the most common form and is usually observed in children with poorly pneumatized mastoid bones.^[1] Luc's abscess is reported to be the most common subperiosteal abscess in children. Neck sinus abscess has also been reported.^[5] Since the zygomatic root is in a relatively high position and usually drains well, there is rare chance for an abscess to develop. However, when purulent secretion extends to the highly pneumatized root of the zygomatic process, the pneumatized bone can be eroded and purulent secretion can accumulate within the temporalis fossa once there is penetration through the periosteum. Purulent secretion can even track from the zygomatic root into the

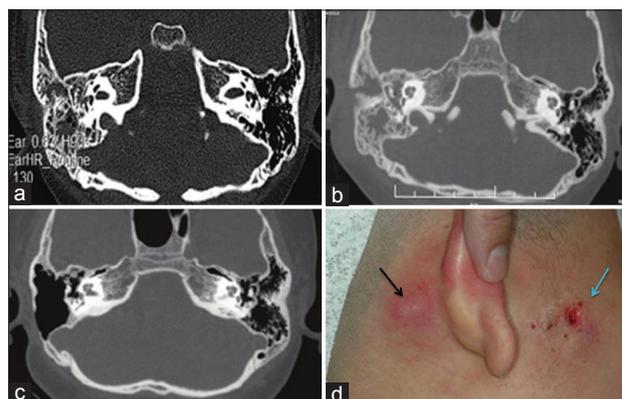


Figure 1: Thickened soft tissue around the temporal area on preoperation computed tomography scan (a). Soft tissue in right mastoid and tympanic cavity, with an irregular osteolytic area involving the tympanic cavity, right zygomatic root, and zygomatico temporal junction on preoperation computed tomography scan (b). The temporal bone had recovered well on postoperation computed tomography scan (c). Facial appearance. blue arrow: Subepidermal abscess fistula; Black arrow: Retroauricular abscess has formed (d).

cheek to form mumps of the cheek, which usually misleads doctors to make an incorrect diagnosis.

Improper use of antibiotics can mask the signs of otitis media and results in masked mastoiditis, which can also be responsible for the misdiagnosis of zygomatic root abscess. Cultures can guide proper selection of antibiotics. Mastoidectomy is necessary once conservative treatments are found to be ineffective. During the operation, purulent secretion and eroded bone should be removed, clearing the involved air cells of the zygomatic root as well as the mastoid process.

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Address for correspondence: Dr. Yu-He Liu,

Department of Otolaryngology Head and Neck Surgery, Peking University
First Hospital, Beijing 100034, China
E-Mail: liuyuhufeng@163.com

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Conflicts of interest

There are no conflicts of interest.

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