Large giant cell tumor of the temporal bone presenting as mild conductive hearing loss

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Abstract

Introduction: Giant cell tumor of bone or osteoclastoma is a relatively rare primary neoplasm of temporal bone. It usually involves the epiphyseal region of long bones. Primary involvement of bones of the skull appears to be uncommon.

Case report: We report a case of giant cell tumor of temporal bone arising in a 33 years old man. The presenting symptom is only mild conductive hearing loss. A computed tomography (CT) scan showed a large well circumscribed mass within the right temporal bone, the posterior cranial fossa and the infratemporal fossa. Biopsy and subsequent resection showed a giant cell tumor of bone.

Conclusion: Temporal bone tumor may be presented with symptoms such as mild hearing loss or aural fullness. So we always must be attention rare reasons of common symptoms.

Key words: Hearing loss, Giant cell tumors, Temporal bone

Introduction

Giant cell tumor of bone or osteoclastoma is a relatively rare primary neoplasm. Constituting approximately five percent of all primary bone tumors. The tumor is given its name due to the presence of numerous osteoclast-like giant cells (1). Giant cell tumors usually involve the epiphyseal region of long bones and primary involvement of the bones of the skull appears to be uncommon and preferentially involves the sphenoid and temporal bones of the middle cranial fossa. These bones arise, as do long bones, through a process of endochondral bone formation (2).

Case report

A 33 years old man presented initially to the ENT clinic at the Imam Reza Hospital, with a four-month history of mild hearing loss and fullness in the right ear. Initial examination showed sagging of the posterior external auditory canal wall. Cranial nerve examination revealed no abnormality. Audiometric assessment demonstrated a conductive hearing loss of 25dB in the right ear with normal thresholds in the left ear. A computed tomography demonstrated a large, well-circumscribed mass arising within the right temporal bone (Figure 1). And extending posteriorly to posterior cranial fossa.
The radiologic impression was of an aggressive neoplasm arising primarily with in the right temporal bone. Hematological and biochemical blood indices, including bone profile, were normal. There was no clinical or biochemical evidence of hyperparathyroidism. Chest X-ray showed no abnormality. Open biopsy was performed and following the histological report, definitive surgery was performed. Tumor destroyed the posterior wall of the external ear canal and entered to the canal although tympanic membrane and ossicles were saved.

Tumor was developed to the posterior dura although dura wasn’t destroyed. Tumor was curettages from the posterior to anterior in the appearance of anthrurna. The posterior wall of the external ear canal was destroyed. Tumor was resected with preservation of tympanic membrane (Figure 2).

The nerve canal was opened and nerve was free from the canal and followed to stylomastoid foramen. Tumor was completely dissected from the nerve and followed by interposition of palva flap in the cavity, which was formed after resection of tumor and a large meatoplasty was done. Facial nerve had mild paresis but after two weeks was turned to normal action. From histologic point of view, tumor was contained of mononuclear stroma cells like fibroblasts with penetration of the giant cells (Figure 4).

**Discussion**

Giant cell tumors affecting the temporal bone are rare. In a review of the literature, Zelig et al identified only 15 similar cases and 5 new cases have been reported since that time (3). The clinical features of giant cell tumor depend on their location. Conductive hearing loss occurred more in cases present in the mastoid, middle ear, or external auditory canal, whereas sensorineural hearing loss was reported in cases involving the petrous pyramid. MC Cluggage and MC Bride reported a case of giant cell tumor arising with in the temporal bone.

The patient had an unusual presentation. His chief complaint was of rotational vertigo and he initially presented to a vertigo clinic (1). The presence of pain or a mass was the next most common symptom. Wolf et al reported 10 cases of giant cell tumor of the sphenoid bone.
Large giant cell tumor with conductive hearing loss

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Some believe that radiation therapy should be reserved only for cases in which complete surgical removal is impossible (9, 12). Others believe that because of the seeming inevitability of recurrence with an incomplete resection and because of the apparent safety and effectiveness of modern radiotherapeutic techniques, optimal therapy in the cases of a tumor involving the bones of the skull consists of radical resection followed by carefully planned and delivered irradiation (5).

Reference
خلاصه

تظاهر اولیه تومور سلول زایت استخوان نمکورال
به صورت کاهش شنوایی خفیف هدایتی

دکتر احسان خدیوی، دکتر مهدی پور صادق، دکتر مهدی بخشایی، دکتر احمد گرویی، دکتر احمد زمانیان

مقدمه: تومور سلول زایت استخوان گیجگاهی یا استخوان سلول گیجگاهی یک توده اولیه نسبتا نادر استخوان گیجگاهی است. او معمولا ناحیه ایی فرار استخوان های بلند و اطراف آن که کاهش شنوایی خفیف هدایتی خاصی هستند. در موارد سایر استخوان گیجگاهی دریک ساله را گزارش می کند که ناحیه اولیه آن یک کاهش شنوایی خفیف هدایتی است. این توده پیوسته با جهت مشخص در داخل استخوان گیجگاهی حفره جمعه ای خفیف و حفره زیر گیجگاهی را نشان داد. بیماران و هدف توده یکتا آن تومور سلول زایت استخوان گیجگاهی را نشان داد.

نتیجه‌گیری: تومورهای استخوان گیجگاهی ممکن است با علائمی مثل کاهش شنوایی هدایتی خفیف یا پری گوش تظاهر کنند.

واژه‌های کلیدی: کاهش شنوایی هدایتی، تومور سلول زایت، استخوان گیجگاهی