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Solitary Osteoma of the External Auditory Canal Causing Conductive Hearing Loss: A Case Report

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Abstract | **Case Report**

Osteomas of the external auditory canal (EAC) are rare, benign bony tumors that may remain asymptomatic or cause conductive hearing loss when large enough to obstruct the canal. We report a case of a young adult male presenting with progressive hearing impairment secondary to a solitary osteoma obstructing the right EAC. Clinical examination, pure tone audiometry, and computed tomography (CT) enabled diagnosis. The imaging features and differential diagnoses are discussed, emphasizing the role of surgical resection in symptomatic cases.

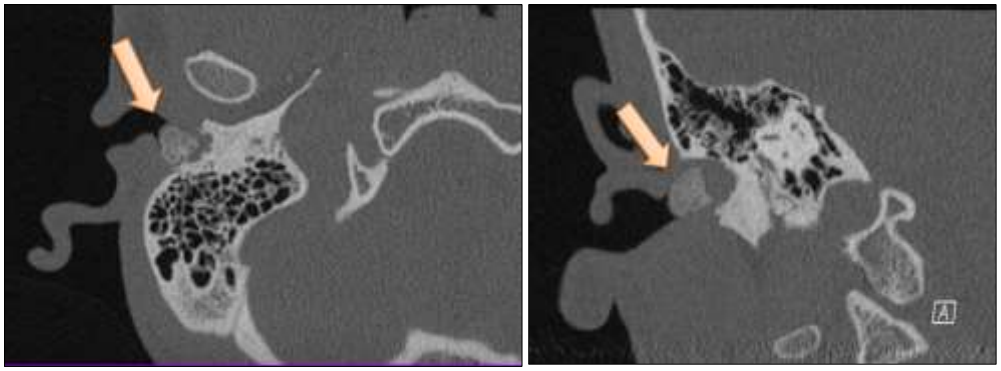
Keywords: Osteoma, External Auditory Canal (EAC), Conductive Hearing Loss, Computed Tomography (CT), Surgical Resection.

INTRODUCTION

Osteomas are slow-growing benign tumors composed of mature lamellar bone. While they most frequently arise in the paranasal sinuses, they may also develop within the temporal bone, most commonly the EAC [1]. These lesions are uncommon and typically identified incidentally during imaging, but may present symptomatically if large enough to cause canal obstruction, leading to conductive hearing loss or recurrent infections [2]. Distinguishing osteomas from other EAC pathologies, particularly exostoses, is critical for appropriate management.

CASE PRESENTATION

A 20-year-old male presented with progressive conductive hearing loss in the right ear. Otoscopic examination revealed a firm, immobile mass occluding the external auditory canal. Audiometric testing confirmed conductive hearing loss on the affected side. Temporal bone CT demonstrated a solitary, hyperdense, pedunculated osseous lesion originating from the bony-cartilaginous junction of the EAC. The diagnosis of an EAC osteoma was made based on clinical and radiological findings. The patient was referred for surgical excision.



Axial(a) and coronal(b) CT images showed pedunculated bony outgrowth at the bony cartilaginous junction of left external auditory canal likely representing external auditory canal osteoma. There was associated mild soft tissue thickening

DISCUSSION

External auditory canal osteomas are composed of dense, mature lamellar bone and generally originate from the tympanosquamous or tympanomastoid suture at the lateral aspect of the EAC [3]. Although the exact etiology is uncertain, associations with chronic irritation, trauma, infections, and endocrine factors have been proposed [4]. They are most common in adolescents and young adults, with no significant sex predilection [5].

These lesions are usually unilateral, solitary, and asymptomatic. However, when they enlarge sufficiently to obstruct the canal, symptoms such as hearing loss, otalgia, tinnitus, or otitis externa may develop due to accumulation of cerumen and epithelial debris [6]. CT imaging is the gold standard for diagnosis, typically revealing a dense, well-circumscribed osseous mass, often pedunculated and arising from the outer half of the bony EAC [7]. Two histologic types exist: compact and spongy osteomas, with the former being more commonly found in the EAC [8].

Differential diagnosis primarily includes exostoses, which are multiple, broad-based, bilateral bony overgrowths typically seen in individuals exposed to cold water (e.g., surfers and divers) [9]. Unlike osteomas, exostoses result from reactive hyperostosis and lack a pedicle. Cholesteatoma, fibrous dysplasia, and ossifying fibromas are other less common mimics [10].

Surgical excision is indicated for symptomatic lesions and is typically performed via a transcanal or postauricular approach, depending on lesion size and location [11]. Complete resection at the pedicle is essential to minimize recurrence. Histopathologic analysis confirms the diagnosis and excludes malignancy.

CONCLUSION

Solitary osteomas of the external auditory canal are rare, slow-growing tumors that can result in conductive hearing loss or secondary infections when obstructing the canal. Diagnosis is based on clinical examination and CT imaging. Surgical excision offers definitive management in symptomatic cases. Awareness of this entity and its differentiation from exostoses is crucial for appropriate treatment planning and patient counseling.

REFERENCES

1. Tolisano AM, Hunter JB, Wanna GB. Osteomas of the external auditory canal. Otolaryngol Clin North Am. 2013;46(5):719–727.
2. Naim R, Linthicum FH, Shen T. Osteoma and exostoses of the external auditory canal: histopathologic differences. Am J Otolaryngol. 2004;25(3):162–164.
3. Levenson MJ, Parisier SC, Chute P, Wenig BM. Osteomas of the external auditory canal. Am J Otol. 1986;7(5):341–343.
4. Batsakis JG. Tumors of the head and neck: clinical and pathological considerations. 2nd ed. Baltimore: Williams & Wilkins; 1979.
5. Thompson LDR. Benign lesions of the external auditory canal. Head Neck Pathol. 2018;12(3):364–371.
6. Bendet E, Raveh E, Kronenberg J. Osteoma of the external auditory canal: a diagnostic and surgical challenge. Ear Nose Throat J. 1999;78(10):770–772.
7. Som PM, Curtin HD. Head and Neck Imaging. 5th ed. St. Louis: Mosby Elsevier; 2011.
8. Yoon TH, Kim DK, Kim DH, Park SH. A solitary osteoma of the external auditory canal. Clin Exp Otorhinolaryngol. 2008;1(1):47–49.
9. De Zinis LOR, Cottelli M, Koka V, et al. Exostoses and osteomas of the external auditory canal: clinical and surgical management. Eur Arch Otorhinolaryngol. 2013;270(2):349–356.
10. Ramakrishnan Y, Ishii M, Hawke M. Benign bone tumors of the temporal bone. Otolaryngol Head Neck Surg. 2004;131(6):938–940.
11. Okada M, Gyo K, Yanagihara N. Transcanal excision of osteomas in the external auditory canal. Arch Otolaryngol Head Neck Surg. 1995;121(5):591–594.