

Case Report

A rare case of capillary hemangioma mimicking glomus tympanicum in a 38 years old male

Huidrom Anand Singh*, Vaishali Agarwal, Mishal Fathima Madathumpady Abdussalam, Amol Anandrao Patil, Uday Vora

Department of Otorhinolaryngology, Dr. Balabhai Nanavati Hospital, Mumbai, Maharashtra, India

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*Correspondence:

Dr. Huidrom Anand Singh,

E-mail: has300@gmail.com

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ABSTRACT

Capillary hemangiomas of the middle ear are rare benign vascular neoplasms characterized by abnormal proliferation of small blood vessels. We report a case of a 38-year-old male who presented with episodes of otorrhea, aural fullness, otalgia, and hearing loss in the left ear. Otoscopic examination revealed a thickened, reddish, non-pulsatile tympanic membrane. Pure tone audiometry demonstrated mild conductive hearing loss, and CT imaging of the temporal bone showed a soft tissue mass in the mesotympanum and epitympanum. Surgical exploration and histopathology confirmed the diagnosis of a capillary hemangioma. Surgical excision remains the mainstay of treatment, with histopathology as the definitive diagnostic tool. Long-term follow-up is recommended due to the risk of recurrence.

Keywords: Capillary hemangioma, Middle ear tumor, Conductive hearing loss, Temporal bone mass

INTRODUCTION

Hemangiomas are benign vascular tumors that can occur in various tissues but are rarely seen in the middle ear. They are classified into capillary hemangiomas, comprising small capillary-sized blood vessels, and cavernous hemangiomas, composed of larger vascular spaces. Middle ear capillary hemangiomas are extremely rare and may present diagnostic challenges due to their clinical similarity to other vascular middle ear masses, such as glomus tympanicum. Herein, we report a case of capillary hemangioma of the middle ear to highlight its clinical, radiological, surgical, and histological characteristics.¹

CASE REPORT

A 38-year-old male presented with a two-month history of left-sided episodic otorrhea, mild to moderate otalgia, non-pulsatile aural fullness, and mild hearing loss.

Otosopic examination revealed a thickened, reddish tympanic membrane with flakes in the external auditory canal.

The right ear examination was normal. Pure tone audiometry demonstrated mild conductive hearing loss in the left ear, while the right ear audiogram was normal. CT scan of the temporal bone revealed a soft tissue mass behind the posterior canal wall, extending into the mesotympanum, epitympanum and antrum. Based on clinical and radiological findings, a diagnosis of cholesteatoma with otitis externa was initially considered. (Figure 1).

Surgical management

A postauricular approach was undertaken. Following tympanomeatal flap elevation and entry into the tympanic cavity, a reddish bleeding mass was visualized occupying the mesotympanic cavity and extending to the

epitympanum, aditus, antrum, and mastoid cavity. The mass engulfed the incus, malleus, and incudostapedial joint. Atticotomy and mastoid antrum exposure were performed to facilitate complete excision. The tumor was dissected meticulously using bipolar coagulation and fragmentation. The incus was removed to avoid further ossicular damage and prevent sensorineural hearing loss. A partial dehiscence of the horizontal facial canal above the stapes footplate was noted (Figure 2 and 3).

The mass was sent for frozen section and histopathology. Frozen section which reported polygonal to ovoid cells proliferation and interspersed small sized vessel.

Reconstruction was performed with an augmented Type III tympanoplasty and posterior canal wall reconstruction using cartilage and temporalis fascia. The patient had an uneventful postoperative course and was discharged the next day.

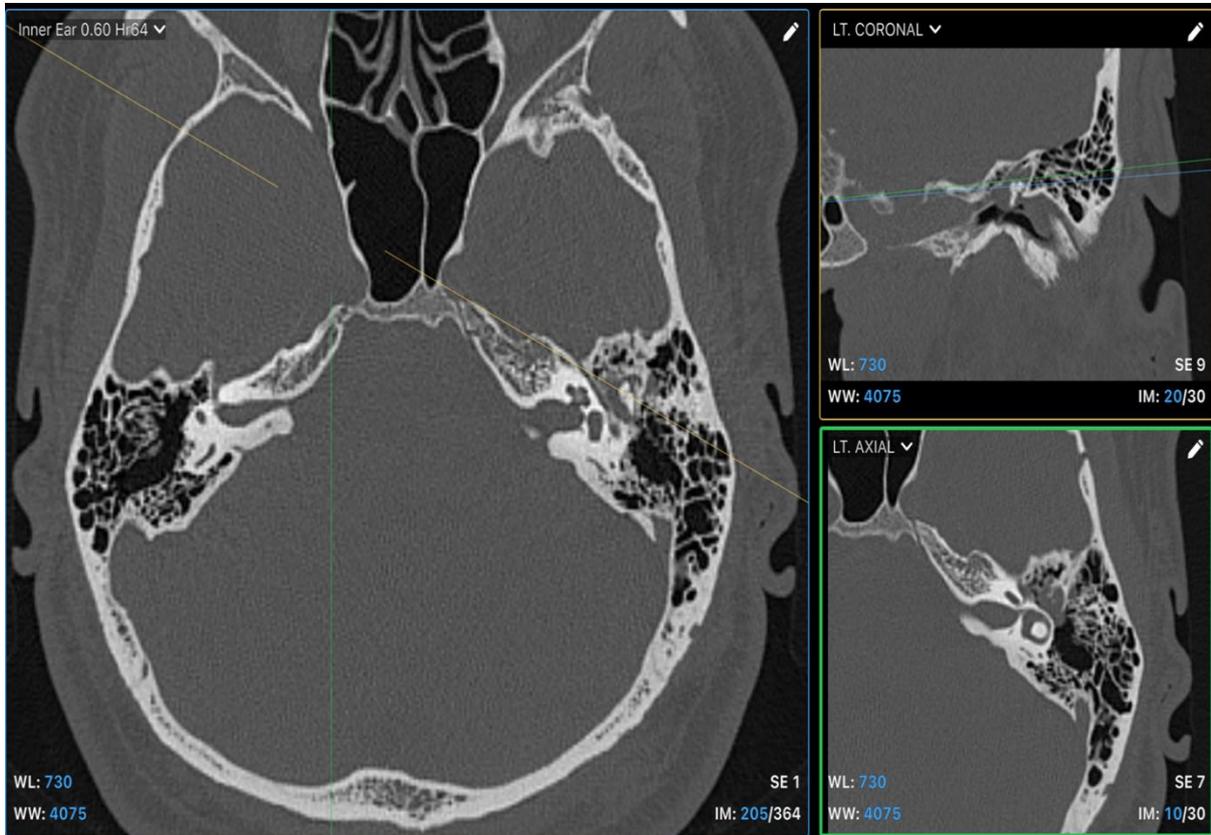


Figure 1: Computed tomography scan of temporal bones without enhancement. A soft-tissue density mass is seen filling the left middle ear, epitympanum and tympanic antrum.

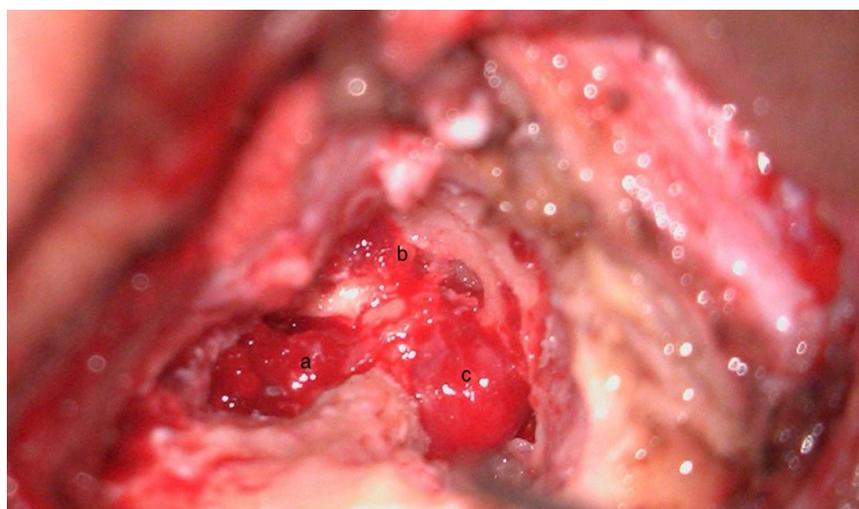


Figure 2: Left middle ear tumour mass (a) mesotympanum, (b) anterior attic and (c) antrum.

Histopathological report

Histopathology showed a lesion composed of multiple thin-walled capillary-sized vascular spaces lined by endothelial cells, containing red blood cells. No evidence of paraganglioma, schwannoma, malignancy, or high-grade areas was noted (Figure 4 and 5).



Figure 3: Tumour mass excised, dehiscence horizontal facial canal above the stapes footplate.

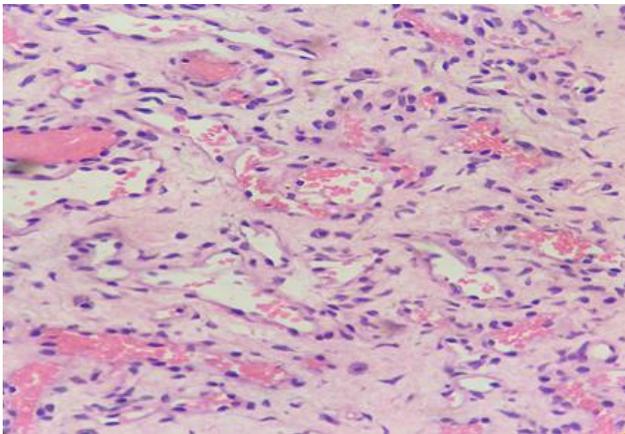


Figure 4: Histopathological examination shows lesion composed of multiple thin-walled capillary-sized vascular spaces lined by endothelial cells, containing red blood cells.

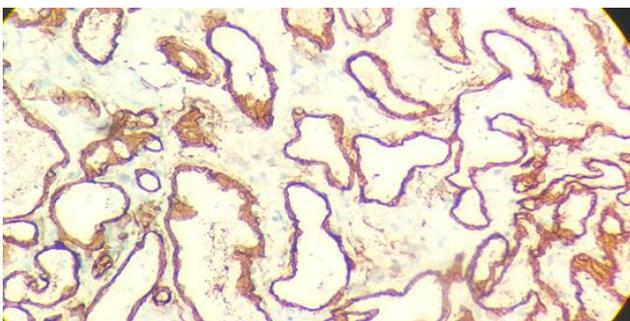


Figure 5: Immunohistochemical staining positive for CD 34 which highlights the endothelial cells.

Immunohistochemistry demonstrated CD34 positivity in endothelial cells, SMA positivity highlighting the

pericytes, negative staining for synaptophysin, chromogranin, and S100.

These findings confirmed the diagnosis of capillary hemangioma.

DISCUSSION

Capillary hemangiomas are commonly found in the head and neck region but are extremely rare in the middle ear.^{1,2} Hemangiomas must be considered in the differential diagnosis of any apparent vascular lesion. Glomus tumor is the most common vascular mass of the middle ear.³ Dayal et al classified glomus-like lesions of the middle ear as follows: vascular lesions: high jugular bulb, aberrant intratympanic intracardiac artery, and arteriovenous malformations; neoplastic lesions: meningioma, hemangioma, and pyogenic granuloma; and inflammatory lesions: cholesterol granuloma and aural polyp.^{3,4} Temporal bone hemangiomas have a predilection for three sites, which are in decreasing order of frequency, the geniculate ganglion, internal auditory meatus, and the origin of the chorda tympani.⁵

Most reported cases present with hearing loss, pulsatile tinnitus, and visualization of a reddish mass on otoscopy.⁶ Otagia is less frequently reported.^{7,8} These are predominately unilateral, although one patient had identical bilateral lesions.² In our patient, otorrhea and otalgia were the predominant symptoms, with no pulsatile tinnitus, leading to a different initial clinical diagnosis. Preoperative differentiation between hemangiomas and other vascular tumors like glomus tympanicum remains challenging, even with imaging. Histopathological analysis remains the gold standard for diagnosis.¹⁻⁹

Surgical excision is the preferred treatment approach, aiming for complete removal to reduce recurrence risk.⁷ Incomplete excision can result in regrowth. Long-term follow-up is recommended due to the potential for recurrence. The prognosis of capillary hemangioma is good and recurrence is rare after complete resection.¹ However, it is associated with a high recurrence rate of 43.5% if resection is incomplete.¹⁰

CONCLUSION

Middle ear capillary hemangioma is a rare entity that should be considered in the differential diagnosis of vascular lesions of the temporal bone. Clinical and radiological findings often mimic more common entities like glomus tumors. Histopathological examination is crucial for definitive diagnosis. Surgical excision remains the cornerstone of treatment, and long-term follow-up is essential to monitor for recurrence.

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REFERENCES

1. Nouri H, Harkani A, Elouali Idrissi M, Rochdi Y, Aderdour L, Oussehal A, et al. Capillary Hemangioma of the Middle Ear: Case Report and Review of the Literature. *Case Rep Otolaryngol.* 2012;2012:305172.
2. Manning SC, Culbertson MC, Vuitch F. Bilateral middle ear lobular capillary hemangiomas. *Otolaryngol Head Neck Surg.* 1990;102(1):85-8.
3. Dayal VS, Lafond G, Van Nostrand AW, Holgate RC. Lesions simulating glomus tumors of the middle ear. *J Otolaryngol.* 1983;12(3):175-9.
4. Rosai J. *Soft tissues: Ackerman's Surgical Pathology.* St Louis (MO): Mosby. 1996: 2021-2033.
5. Kojima H, Yaguchi Y, Moriyama H. Middle ear hemangioma: a case report. *Auris Nasus Larynx.* 2008;35(2):255-9.
6. Varshney S, Malhotra M, Kaur N, Gairola P. Capillary haemangioma: a rare vascular tumour of the external auditory canal. *Indian J Otolaryngol Head Neck Surg.* 2015;67(4):417-21.
7. Zhong CP, Wen LT, Han Y, Yang C, Qiao L, Ye J, et al. Capillary Hemangioma of the Middle Ear and External Auditory Canal: A Case Report. *J Otol.* 2010;5(2):111-6.
8. Fernando JZ, Ricalde RR. Capillary Hemangioma of the Temporal Bone. *Philipp J Otolaryngol Head Neck Surg.* 2017;32(1):183.
9. Yang G, Li C, Chen X, Liu Y, Han D, Gao X, et al. Large capillary hemangioma of the temporal bone with a dural tail sign: A case report. *Oncol Lett.* 2014;8(1):183-6.
10. Pistorio V, De Stefano A, Petrucci AG, Achilli V. Capillary haemangioma of the middle ear: a rare lesion difficult to evaluate. *Acta Otorhinolaryngol Ital.* 2011;31(2):109-12.

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