Cavernous Hemangioma of the External Auditory Canal in Patients Older than 60 Years: A Rare Tumor

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A 62-year-old woman visited our otorhinolaryngology clinic with symptoms of aural fullness in right ear that began several months prior. On physical examination, a soft, pinkish, cystic mass was observed in the right external auditory canal (EAC) and it almost occluded the canal. Facial computed tomography revealed a 1.3 × 1.0 cm poorly enhanced, posteriorly based, soft tissue density mass (Figure 1). Surgical excision was planned under the suspicion of vascular tumor.

In microscopic surgery under local anesthesia, the mass was excised completely via a retroauricular approach. The retroauricular approach was performed due to large size of the mass. The mass was not in contact with the tympanic membrane, so the tympanic membrane was intact. After excision, the skin defect was minimal.

After surgery, symptom of aural fullness in the right EAC improved. One year after surgery, there had been no tumor recurrence. Histopathologic findings revealed cavernous hemangioma, which consisted of thick-walled vessels. The vascular channels were covered with keratinized stratified squamous epithelium (Figure 2).

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Figure 1. A 1.3 × 1.0 cm posterior-based, soft, pinkish, cystic mass is observed in the right external auditory canal. (A) Transcanal view, (B) retroauricular view, (C) facial computed tomography.
A 69-year-old woman visited our otorhinolaryngology clinic with symptoms of aural fullness and tinnitus in the left ear that began several years prior. On physical examination, a soft, purple, cystic mass was observed in the left EAC. Temporal bone computed tomography revealed a 0.5×0.5 cm inferiorly based, soft tissue density mass (Figure 3). Surgical excision was planned under the suspicion of vascular tumor.

In microscopic surgery under local anesthesia, the mass was excised completely via a transcanal approach. The mass was not in contact with the tympanic membrane, so the tympanic membrane was intact. After excision, the skin defect was minimal.

As in the former patient, pathology revealed cavernous hemangioma. After surgery, symptoms of aural fullness and tinnitus in the left EAC improved. Two years and 4 months after surgery, there had been no tumor recurrence.

Hemangioma is a benign vascular soft tissue tumor1-5 and the most common soft tissue tumor in children.2 More than 60% of hemangiomas occur in the head and neck region, but they are rare in the EAC.2-6

In 1982, Mulliken and Glowacki developed a system of classification that divided vascular tumors into 2 categories, hemangioma and vascular malformation.5-7 Hemangioma is a common vascular tumor characterized by increased numbers of vessels filled with blood.7 The incidence of hemangioma is 1% to 2.6% at birth and 10% in the first year of life.2,8 Half of these lesions involute spontaneously within the first 5 years of life and the rest typically involute by the age of 10 to 12 years.8 Histopathologically, hemangiomas are classified into capillary hemangioma, cavernous hemangioma, and mixed hemangioma.2,5

Capillary hemangiomas consist of capillary-like channels and occur in infants more frequently and regress spontaneously before the age of 5 or 6 years. In contrast, cavernous hemangiomas consist of large cavernous vascular spaces and occur after the sixth decade of life. Vascular malformations are correlated with infection, trauma, ligation, attempted excision, and changes in serum hormone levels.5,6

Hemangiomas comprise 7% of all benign tumors in infants and young children.7 However, hemangiomas of the EAC, tympanic membrane, and middle ear are rare.1,2,8 Cavernous hemangioma involving only the EAC is particularly rare and only 7 cases have been reported in the English literature until now.6

Hemangioma is usually detected incidentally. Hemangioma in the EAC may be asymptomatic, but symptoms such as blood-tinged otorrhea, aural fullness, hearing loss, and pulsatile

**Figure 2.** Histopathologic image shows multiple dilated vascular channels which are located beneath keratinized squamous epithelium (hematoxylin-eosin, ×100).

**Figure 3.** A 0.5 × 0.5 cm inferiorly-based, soft, purple, cystic mass is observed in the left external auditory canal. (A) Transcanal view, (B) temporal bone computed tomography.
Tinnitus can occur when the mass grows larger.\textsuperscript{2,8} Computed tomography is the best diagnostic imaging tool.\textsuperscript{1,2,8} Angiography is not always necessary if massive bleeding is not expected.\textsuperscript{1,2,6}

The treatment of choice for symptomatic hemangioma is complete surgical excision.\textsuperscript{2-6,8,9} If the mass does not cause symptoms, treatment can be limited to observation.\textsuperscript{2,6,7} Hemangioma should be differentiated from glomus tumor, attic cholesteatoma, aural polyp, arteriovenous malformation, granulation tissue, and carcinoma.\textsuperscript{1-6,9} If another pathology is suspected, surgical excision should be considered and pathologic confirmation is needed.

Cavernous hemangioma of EAC is a rare vascular tumor. In these cases, a rare vascular cystic mass was excised, and the patients’ symptoms of aural fullness and tinnitus improved. If a hemangioma is found to be causing such symptoms, excision should be considered despite nonoccluding size of the mass.

**Authors’ Note**
The Institutional Review Board of the National Health Insurance Service Ilsan Hospital exempted the review of this study (NHIMC 2019-04-031).

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