

# Promontory hemangioma mimics glomus tympanicum in the middle ear (promontory hemangioma)

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**Abstract.** – Hemangiomas, common benign vascular tumors, have been well reported in the head and neck region. They have rarely been reported in the ear. Ear involvement hemangiomas are usually seen in the together with external auditory channel and middle ear. We presented a 62-year-old woman of capillary promontory hemangioma which was mimicking as glomus tympanicum with a review of the literature.

*Key Words:*

Hemangioma, Middle ear, Promontory, Glomus tympanicum.

## Introduction

Hemangiomas are well-known, benign, vascular tumor commonly seen in head and neck region but they are rare in the middle ear<sup>1</sup>. Only 19 such cases have been reported in English literature and out of which, two with hemangioma of middle ear was extended to the mastoid cavity<sup>2</sup>. In 17 cases, the hemangioma was involvement of the external auditory canal and/or tympanic membrane (TM)<sup>1-4</sup>. The aim of this study is to present a case of isolated promontory hemangioma of the ear starting with otitis media-like symptoms, mimicking as glomus tympanicum.

## Case Report

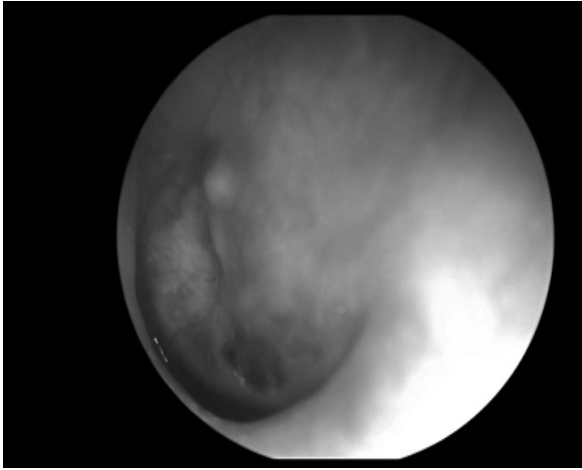
A 62-year-old woman was admitted with a one-year history of transient otorrhea, pulsatile tinnitus and hearing loss in the left ear. The otorrhea was non-foul smelled, transient, non purulent, blood staining. She also had gradually moderate hearing loss for last five years. After admission to our Clinic, an otolaryngological examination was performed that revealed a pulsatile mass be-

hind the tympanic membrane with a 1 mm perforation in the TM. Pulsation of TM was recorded (Figure 1). Vestibular examination was unremarkable. The head and neck and neurological examination were normal. Audiological evaluation showed a moderate mixed type hearing loss in the left and mild mixed type hearing loss in the right ear (Figure 2). A new glomus body of the promontory in the middle ear (the glomus tympanicum) was decided in this patient. Computed tomographic (CT) examination was non pneumatized mastoid cavity of the left ear and magnetic resonance imaging (MRI) revealed non specific mucosal hypertrophy in the left middle ear (Figure 3). Mastoidectomy with transcanal exploration was performed. The small hemorrhagic mucosal lesion was localized on the promontory and it was resected. Histopathological study of the material obtained confirmed the diagnosis of capillary hemangioma of the promontory (Figure 4). The patient had no post-operative hearing loss, and the pulsatile tinnitus stopped in the postoperative six months.

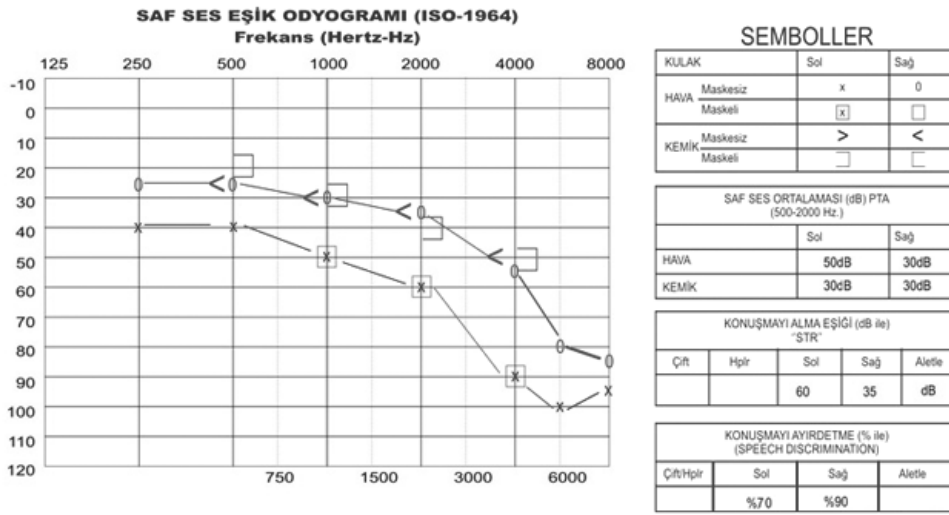
## Discussion

Glomus tympanicum tumors, the most common of the primary middle ear neoplasm<sup>5</sup>, are usually described as arising on the promontory<sup>5</sup>. Intra temporal hemangioma is a rare clinical entity, if occurs, mostly involves inner ear or geniculate ganglion<sup>6</sup>. That was the only case report revealing hemangioma with promontory. Literature review also revealed no case of hemangioma localized on the promontory of the middle ear only.

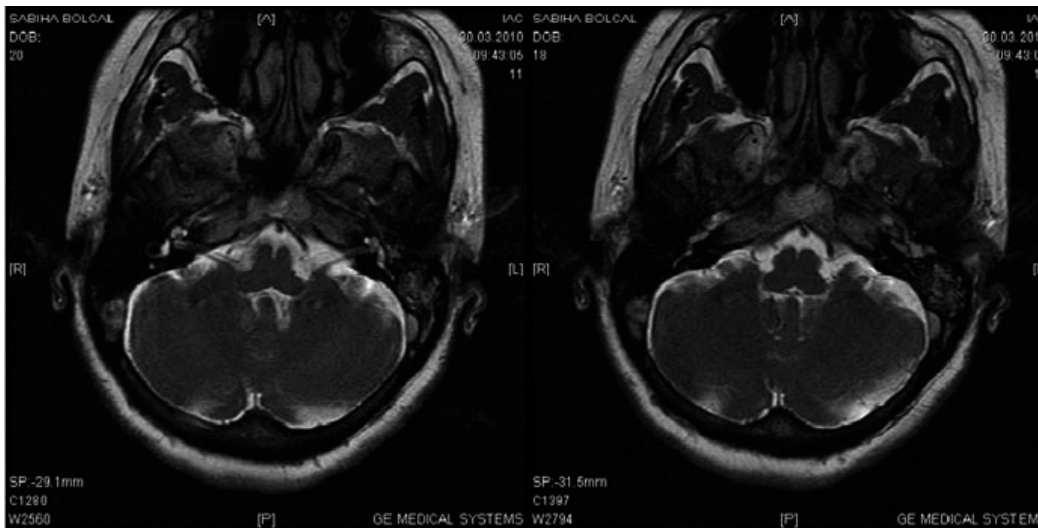
Hemangiomas typically develop by the age of 1 year in children and involutes by 5 or 6 years of age. Most of the reported cases of external au-



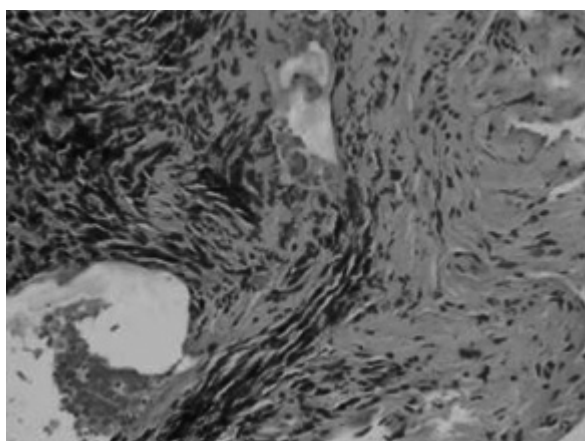
**Figure 1.** A pulsatile mass behind the tympanic membrane (TM) with a 1 mm perforation in the TM could be seen from the video recording.



**Figure 2.** Audiological evaluation showed a moderate mixed type hearing loss in the left and mild mixed type hearing loss in the right ear.



**Figure 3.** Computed tomographic (CT) examination and magnetic resonance imaging revealed no specific mucosal hypertrophy in the middle ear and non pneumatized mastoid cavity of the left ear.



**Figure 4.** The underlying stroma is composed of proliferating thin walled capillary and the stroma is infiltrated by red blood cells. The diagnosis is the capillary hemangioma of the promontory.

ditory canal and middle ear were diagnosed in adulthood or later in life<sup>1</sup>. Hemangiomas are classified histological according to the predominant type of vascular channel as capillary, cavernous, or mixed. Capillary hemangiomas consist of closely arranged capillary-like channels while, Cavernous hemangiomas are composed of large cavernous vascular spaces. They are sessile, soft, bright red to blue, on a level with the surface of the skin, or slightly elevated, easily compressible and blench on pressure<sup>2,7</sup>. This case is the capillary hemangioma of the promontory.

Most glomus tympanicum tumors are accompanied by pulsatile tinnitus. A pulsatile tinnitus and unilaterally mixed type hearing loss was recorded in this patient's left ear. The most common presenting features of ear hemangioma are conductive hearing loss, bloody otorrhea, otalgia and otitis media in order of decreasing frequency<sup>7</sup>. Otolaryngological examination of this

patient was a pulsatile mass behind the tympanic membrane (TM) with a 1 mm perforation in the TM (Figure 1). A new glomus body of the promontory in the middle ear (the glomus tympanicum) was decided in this patient.

Most recommended treatment is the complete resection of the mass. However, only one case of hemangioma of middle ear was reported in English literature underwent spontaneous regression. The recurrence may occur after incomplete resection (1, 4, and 7).

In conclusion, promontory hemangioma in the middle ear is a rare disease with a diverse spectrum of clinical presentations. Manifestations of may be confused, as happened in our case, with glomus tympanicum. Not only glomus tympanicum could be seen on the promontory but also the hemangiomas could be seen.

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