

Cavernous hemangioma in inferior concha presented with hearing loss

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ABSTRACT

Location of cavernous hemangioma in nasal cavity is a very rare condition. Herein we will report an adult male diagnosed with cavernous hemangioma located in inferior concha and causing otitis media with effusion that was treated with the minimally invasive trans-nasal endoscopic technique. Although there are many options in treatment of lesions in nasal cavity, we recommend the trans-nasal endoscopic approach since it is minimally invasive and it is sufficient in both bleeding control and complete removal of the cavernous hemangioma.

Key Words: Cavernous hemangioma, inferior concha, endoscopic technique, hearing loss

Introduction

Hemangiomas are the most common benign vascular lesions in the body and they are also commonly reported in head and neck region. However, they are rarely reported in nasal cavity and paranasal sinuses (1). Histologically they are divided into 3 groups depending on the dominant vessel size at microscopy, as capillary type, cavernous type and the mixed type (2).

Herein we will report a 67 years old man who was admitted with hearing loss and diagnosed with otitis media with effusion due to cavernous hemangioma located in inferior concha. To the best of our knowledge, presence of cavernous hemangioma in nasal cavity is highly exceptional.

Case report

A 67 years old male patient was admitted to our otolaryngology department suffering from headache and hearing loss on right ear for 1 month. The otoscopic evaluation revealed otitis media with effusion on right ear. In nasal endoscopy, there was degenerated inferior concha completely obstructing the passage on right side lying through the choana and blocking the eustachian tube (Figure 1). Audiometric examination revealed right sided mixed type

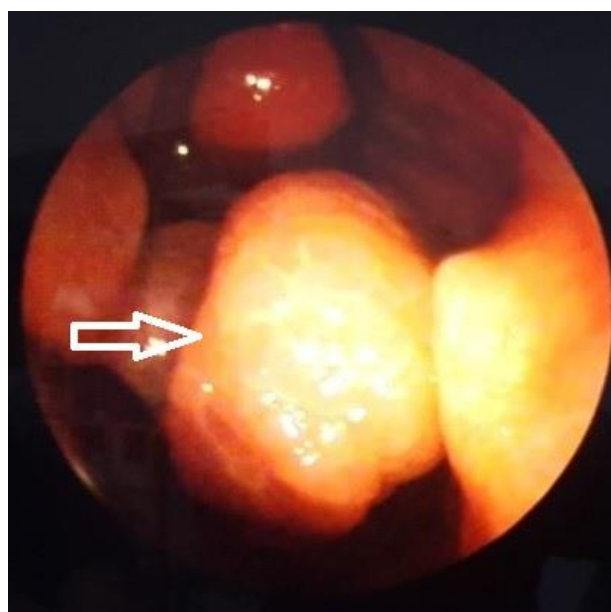


Fig. 1. Nasal endoscopy revealed degenerated inferior concha completely obstructing the passage on right side lying through the choana

hearing loss and left sided sensorineural hearing loss. On tympanometry, there was a serous fluid accumulation on middle ear (Figure 2). It was learned that, he had been evaluated with the same symptoms the day before in neurology department and brain magnetic resonance imaging (MRI) was reported as 'soft tissue densities on right mastoid bone, mucosal thickening on antrum of right

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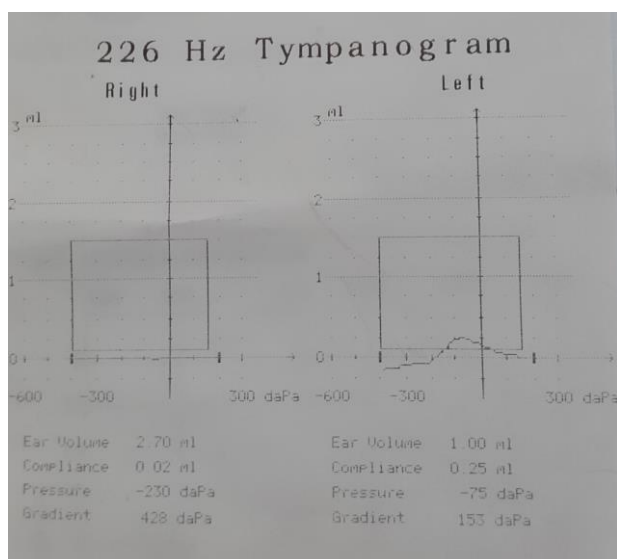


Fig. 2. Tympanometry revealed there was a serous fluid accumulation on middle ear



Fig. 3. Brain magnetic resonance imaging revealed 'soft tissue densities on right mastoid bone, mucosal thickening on antrum of right mastoid bone and extremely hypertrophic right middle concha lying through the choana

mastoid bone and extremely hypertrophic right inferior concha lying through the choana with obstruction of the eustachian tube'(Figure 3). Since the patient had an MRI investigation in last days, computed tomography was not required. Operation was advised to the patient for the treatment. Due to his advanced age and presence of the atherosclerotic heart failure, he was operated under sedation. After positioning, otomicroscopy was performed. There was a serous efflux on right tympanic membrane, parasyntesis was performed and ventilation tube was inserted. Then the patient was re-positioned. With the '0' degree endoscope, right nasal passage was inserted. Inferior concha was highly hypertrophic and degenerated. By the aid of the bipolar cotter and concha scissors, degenerated concha was excised except 1/3rd upper part of it. Hemorrhagic control was obtained without any tamponade requirement. Total excision material was gray in color and 6x3,5x1,5 cm in diameter (Figure 4). The histo-pathological diagnosis of the excised lesion was cavernous hemangioma (Figure 5). The early postoperative period and the first month follow-up were uneventful. Informed consent was obtained from the patient for this report.

Discussion

In this paper we have reported an elderly man diagnosed with cavernous hemangioma located in

inferior concha that was causing hearing loss due to blockage of eustachian tube and was treated with the minimally invasive trans-nasal endoscopic technique. To the best of our knowledge, location of cavernous hemangioma in nasal cavity and/or paranasal sinuses is extremely rare and there are only few cases in literature.

Hemangiomas are not commonly originated from the mucosal tissue of the nasal cavity and cavernous hemangiomas are exceptional. Very recently, Kim and Kwon (3) reviewed the general characteristics of 37 patients diagnosed with hemangioma of the sinonasal mucous membranes and reported that; in 10 years period there were 1,479 patients diagnosed with hemangiomas in the total body area and among those, 300 were in the head and neck region but only 37 of them were located in nasal cavity. Among those 37 patients; 24 were capillary and 13 were cavernous hemangiomas.

Epistaxis and nasal obstruction are the most common symptoms associated with nasal hemangiomas (3). Hamdan et al. (4) reported a case of cavernous hemangioma of the maxillary sinus as a rare cause of epistaxis. Similar with our case, Archontaki et al. (5) reported a case of cavernous hemangioma arising from the mucosa of the middle nasal meatus, in a 48-year-old female, that was treated by the trans-nasal endoscopic excision technique. Likewise Kalina et al. (6) reported a large right nasal cavity mass with involvement of the ethmoids, right



Fig. 4. Total excised material

maxillary sinus, lamina papyracea, cribriform plate and nasal septum in a 22 year old six month pregnant female; treated with trans-nasal endoscopic excision confirming cavernous hemangioma. In our case, although the lesion was large, the patient did not report any epistaxis. In that aspect, absence of epistaxis does not rule out the hemangiomas in differential diagnosis of lesions in nasal cavity. Moreover, to the best of our knowledge, our case is the first one presented with the hearing loss and serous fluid in middle ear.

Preoperative diagnosis with the imaging techniques is very important in nasal hemangiomas in order to determine the extent, and relation with the surrounding structures. The main preferred imaging technique is the contrast enhanced computerized tomography followed by the MRI. In cases of suspicious diagnosis angiography is also advised since it provides both the diagnosis and treatment together. With super selective angiography, intraoperative bleeding may also be avoided. Kim et al. (7) compared the CT and MRI findings of nasal cavity hemangiomas in



Fig. 5. The histo-pathological appearance of the lesion

23 patients and reported that cavernous hemangiomas were larger than the capillary type and most had lobulating contours with bony remodeling and mild to moderate heterogeneous enhancement during the early and delayed phases. They also reported that since CT and MRI findings are different between the two histological types of nasal hemangiomas, they can assist in preoperative diagnosis and planning of tumor excision.

Many different treatment modalities have been advised including cryotherapy, corticosteroid treatment, sclerosing solutions, and resection using YAG laser, embolization and surgical resection of the tumor and ligation or cauterisation of the feeding vessels (8,9). Choice of surgical treatment usually depends on the localization and extent of tumors and varies from local to complete resection that may be either open or endoscopic technique (10). However, minimally invasive endoscopic approaches are more comfortable for the patients especially at advanced ages and having accompanying systemic diseases. Song et al. (11) reviewed 22 patients who had undergone endoscopic excision of sinonasal cavity hemangioma and they reported that endoscopic excision of sinonasal hemangioma yields excellent outcomes in terms of tumor control and safety. We also preferred endoscopic excision in our case, since he was elderly and had accompanying diseases.

In conclusion, although cavernous hemangiomas are very uncommon in nasal area, they should be kept in mind in differential diagnosis of mass lesions located in sinonasal area even if in the absence of epistaxis. In treatment of such cases, minimally invasive trans-nasal endoscopic technique is reliable in terms of controlling bleeding and complete removal of the tumor.

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