A Hamartoma Originating from Both the Eustachian Tube and the Nasopharynx

Hyungi Gim, MD, Woo Yong Bae, MD, PhD, Young Jin Loh, MD and Dong Won Jung, MD
Department of Otorlaryngology-Head and Neck surgery, Dong-A university College of Medicine, Busan, Korea

－ ABSTRACT －

A hamartoma is a malformation that overgrows normal tissues at the site of development. Hamartomas arise principally in the liver, spleen, lungs, and pancreas, and only rarely in the both the Eustachian tube and nasopharynx. Only two such latter cases have been previously reported in the English-language literature. We present a hamartoma that originated from both the Eustachian tube and nasopharynx of a 44-year-old female; we also review the literature. **(J Clinical Otolaryngol 2018;29:91-94)**

KEY WORDS：Eustachian tube · Hamartoma · Nasopharynx.

Introduction

Hamartomas are non-malignant malformations or inborn errors of tissue development characterized by a haphazard growth mode and overgrowth of normal tissues in the bodily region where the hamartoma develops. Hamartomas are most commonly found in the lung, kidney, and intestine. Hamartomas in the nasal cavity, paranasal cavity, or nasopharynx are rather rare. No hamartoma arising simultaneously from the Eustachian tube and nasopharynx has yet been reported in Korea. We describe here such a case.

Case Report

A 44-year-old female presented to our department with a 1-month history of a foreign body sensation and a postnasal drip. She had undergone mastoidectomy and tympanoplasty to treat right-side otitis media at the age of 15 years. Endoscopy of the nasal cavity revealed a smooth-surfaced round mass in the right Eustachian tube and a circular mass in right nasopharynx (Fig. 1). Both masses were biopsied to allow histopathological examination.

Macroscopically the mass in the right-side Eustachian tube was 1.9 × 0.9 cm in size, pedicled, and had a soft surface (Fig. 2). Computed tomography (CT) and magnetic resonance imaging (MRI) were performed to identify any other masses or nearby lesions. The only evident lesion was maxillary sinusitis (Fig. 3). Histopathologically, both masses were hamartomas, characterized by chronic inflammation of fat, muscle, and nerve cells. The surrounding tissues had not been invaded, and no malignant cells were found (Fig. 4). Two weeks after biopsy, the Eustachian tube and nasopharynx were endoscopically normal (Fig. 5).

Discussion

Hamartomas are malformations occurring during development and are found but rarely in the nasal and paranasal cavities and the nasopharynx (Table 1).[1,2]

Here we present the first case of a hamartoma developing simultaneously in the Eustachian tube and

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동아대학교 의과대학 이비인후-두경부와과학교실
전화 : (051) 240-5428 · 전송 : (051) 253-0712
E-mail : doncamel@dau.ac.kr

nasopharynx. Generally, patients with hamartomas have no specific symptoms apart from mass effects. Hamartomas in the nasal cavity may cause nasal obstruction and epistaxis.[3] Hamartomas are sometimes discovered accidentally thus in the absence of symptoms.[4,5] Hamartomas in the Eustachian tube and adjacent areas may cause ontological symptoms that resolve after mass resection.[5,6] In our present case, we found no correlation between the symptoms and the site of the mass. We assumed that the mass was most likely associated with the prior history of mastoidectomy and tympanoplasty used to treat right-side otitis media when the patient was aged 15 years.

Any mass in the Eustachian tube or nasopharynx must be evaluated in terms of malignancy ; about one-third of such masses are malignant.[7] Definitive diagnosis of a hamartoma is possible only histopathologically ; the differential diagnosis is aided by preexamination CT and MRI.[8] Malignant tumors of the nasopharynx are often osteoclastic lesions in the cavernous or sphenoid sinus, or in the skull base, and are

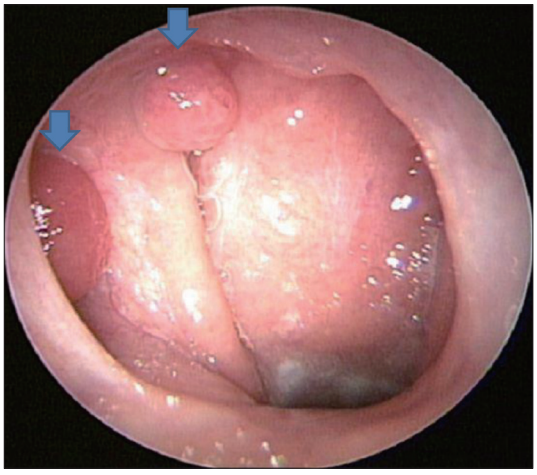

Fig. 1. Smooth-surfaced round mass in the right-side Eustachian tube and a circular mass in the right-side nasopharynx (endoscopic view).

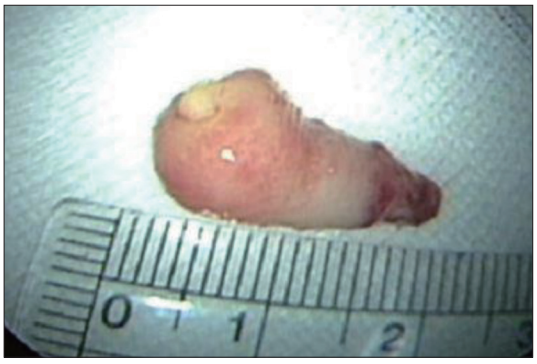

Fig. 2. The mass in the right-side Eustachian tube was 1.9×0.9 cm in dimensions, pedicled, and had a soft surface (gross finding).

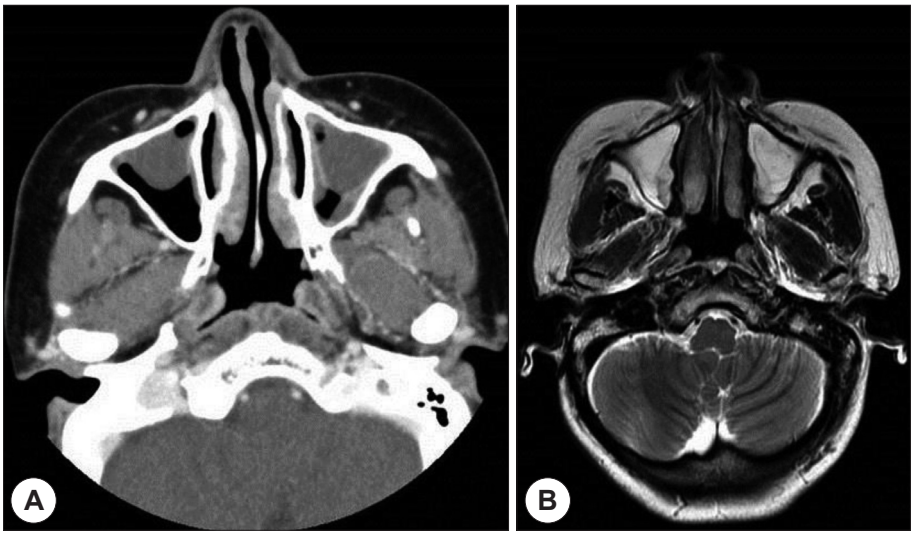

Fig. 3. No other lesion (apart from maxillary sinusitis) was evident on PNS CT (A) and MRI image (B).

evident on CT. Infiltration may be apparent on MRI. Imaging can thus be used to distinguish a hamartoma from a malignant tumor.[5]

We performed paranasal sinus CT and MRI to search for any residual masses and/or invasion. We found nothing of concern.

Hamartomas are classified as mesenchymal, epithelial, and mixed mesenchymal/ epithelial. Mesenchymal hamartomas originate from cartilage, blood vessels, and fat tissue. The mesenchymal tumor subtypes are : angiofibroma, angioma, neurofibroma, and lymph-

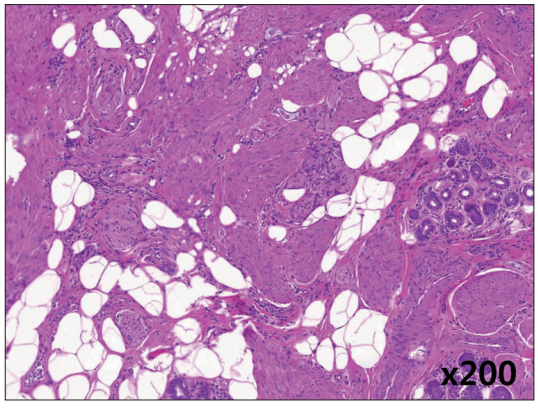

Fig. 4. Both masses exhibited chronic inflammation of fat, muscle, and nerve cells. The surrounding tissues were not invaded and no malignant cells were noted (H&E, ×200).

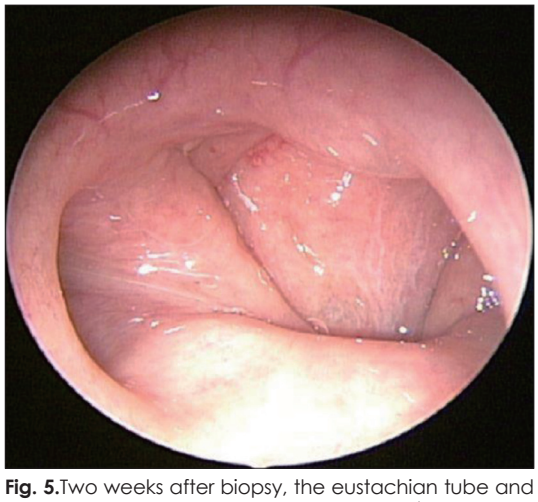

Fig. 5. Two weeks after biopsy, the eustachian tube and nasopharynx area endoscopically normal (endoscopic view).

Table 1. Hamartoma of Nasopharynx found in Korea

Study	Age	Location	Preop symptom	Size	Treatment	Pathologic type	Postoperative clinical evaluation
Kim et al.[2]	42	NP & septum	N-S	0.8, 1.8 cm	Endoscopic resection	Mixed epithelial & mesenchymal	(–)
Lee et al.[4]	57	NP	Nasal obstruction	4.3×2.8 cm	Endoscopic resection	chondro-osseous	4 months
Kim et al.[7]	22	NP	Nasality of voice	2 cm	Surgical resction via oral	Mesenchymal	(–)
Chun et al.[4]	49	NP	Tinnitus	1×1 cm	Endoscopic resection	chondromesenchymal	16 months
Kim et al.[4]	3	NP	N-S	1×1 cm	Endoscopic resection	Mixed epithelial & mesenchymal	2 months

(–) : means that information was not available. NP : nasopharynx

angioma. Epithelial hamartomas develop in epithelia and secretory glands and are subdivided into papillomas, adenomas, and salivary gland tumors.[1)] Otorhinolaryngological hamartomas are almost always of the mesenchymal type,[9)] as was true of our present case. The hamartomas contained fat, muscle, and nerve cells, and exhibited no evidence of dysplasia or malignant change.

The treatment of choice for a hamartoma is complete surgical removal, malignancy develops only very rarely.[10)] No further treatment is required after complete resection.[11)] We used CT and MRI to confirm that residual lesions were absent ; we scheduled no further treatment.

A mass in the Eustachian tube and nasopharynx of an adult requires precise diagnosis, thorough examination, and careful management, due to the possibility of malignancy.

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