

Lobular Capillary Hemangioma Originating From the Nasopharynx

Ear, Nose & Throat Journal

2021, Vol. 100(9) 626–628

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DOI: 10.1177/0145561320922736

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Recently, we experienced a case of lobular capillary hemangioma (LCH) originating from the nasopharynx completely resected by endoscopic surgery. To our knowledge, this is the first case report of nasopharyngeal LCH.

A 27-year-old man presented to our hospital with asymptomatic nasopharyngeal mass. Four months ago, he had a history of complete endoscopic excision due to nasopharyngeal mass which was histopathologically diagnosed as adenocarcinoma at other hospital. During follow-up at 1-month interval, nasopharyngeal mass was found and the patient was transferred to our hospital for further evaluation and proper management. He denied any mass-related Ear, Nose, & Throat (ENT) symptoms. He was a nonsmoker and nondrinker. On transnasal nasopharyngoscopic examination (Figure 1A and B), single, well-defined, round-shaped, and broad-based mass with smooth surface margins measuring approximately 5 mm × 6 mm in size was evident in the roof of the nasopharynx. Computed tomography scans revealed about 5 mm well-enhancing, midline mass from the nasopharyngeal roof with no suspicious adjacent bone erosion. Under the impression of recurrent adenocarcinoma, excisional biopsy via transoral retrovelar approach using a 70° endoscope combined with transnasal approach was performed. Under general anesthesia, the mass was completely resected with a 0.5-cm surgical margin of healthy mucosa and the base of nasopharyngeal mass including the periosteum was curetted and electrocauterized with a coagulation suction device (Figure 1C). Histopathological results were consistent with LCH (Figure 2). The wound healed well, and there was no evidence of recurrence at 12-month postoperative follow-up.

Lobular capillary hemangioma, commonly known as “pyogenic granuloma,” which is a misnomer because it is neither infectious nor granulomatous, is a relatively common benign vascular lesion of unknown etiology which was histologically characterized by vascular proliferation of endothelial cells arranged in a characteristic pattern of circumscribed capillaries arranged in lobules.^{1–4} The disease usually affects the skin and mucous membranes of the oral cavity (gingiva, lips, tongue, and buccal mucosa), but the nasal cavity has been frequently indicated as an unusual site of origin.⁵ The most commonly affected site of nasal cavity is anterior portion of nasal septum,

followed by vestibule, the inferior turbinate, vestibule, middle turbinate, and posterior portion of nasal septum in order of frequency.^{3,5,6} To date, nasopharyngeal location has not been described so far in the literature.

Although the pathophysiology for the development of LCH has not been elucidated so far, hormonal influence (gestational hormones) and trauma/microtrauma (localized irritation) are known as the major etiologic factors.^{4,5} Based on reports related to trauma as a trigger, 7% to 23% of patients with LCH report a previous traumatic injury at the site.^{7,8} The types of trauma are as follows: habitual nose picking, nasal packing, and inferior turbinate surgery.⁴ The majority of LCH caused by trauma usually form at the caudal septum or anterior aspect of the lateral nasal wall.⁴ In our case, LCH occurred in the nasopharynx. We think surgical trauma (excisional biopsy) performed 4 months ago is considered to be the trigger factor. On the basis of Gregorio et al’s report, surgical trauma may cause vascular rupture and damage of the surrounding soft tissue, which progresses to tissue necrosis with subsequent inflammatory and angiogenesis stimuli and eventually leads to the hemangioma formation.⁴

The most frequently presented clinical symptoms of LCH of the nasal cavity are epistaxis and progressive nasal obstruction, depending on the size and location of the lesion.^{5,6} We think the clinical symptoms of nasopharyngeal LCH may be similar to LCH of the nasal cavity. Grossly, LCH usually appears as a solitary, glistening papule or nodule and friable surface with or without macroscopic superficial ulceration. Also, it may be pedunculated or broad-based with variable size and color (red to purple).^{9,10}

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Received: March 4, 2020; accepted: April 7, 2020

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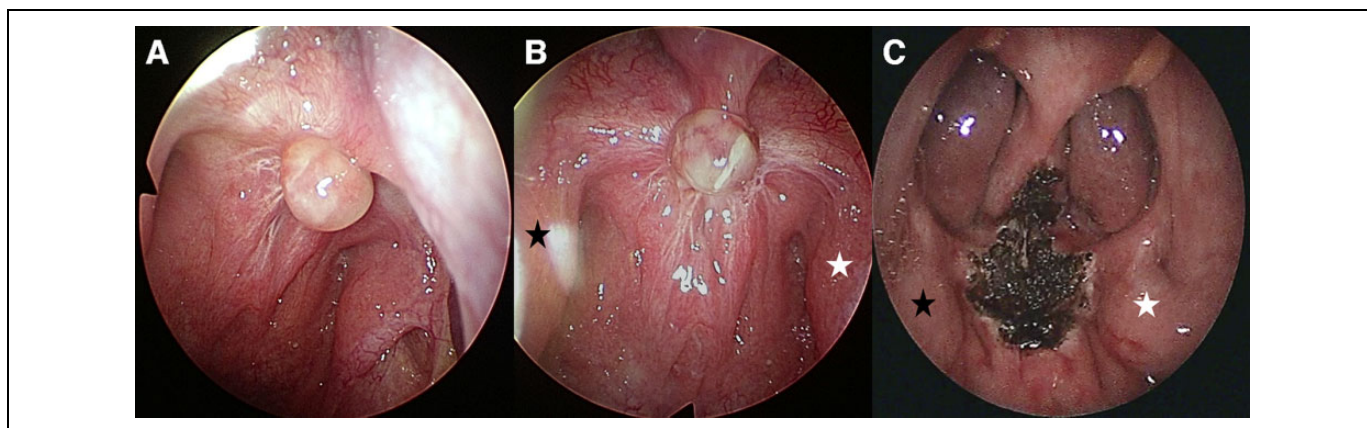


Figure 1. Endoscopic views (A, 30° endoscopic view; B, 70° endoscopic view; C, retrovelar endoscopic view using 70° endoscope). A and B, Transnasal nasopharyngoscopic examination showed a single, well-defined, round-shaped, and broad-based mass with smooth surface margins, measuring approximately 5 mm × 6 mm in size in the roof of nasopharynx. C, Transoral retrovelar endoscopic view showed the bed of the mass was electrocauterized with a coagulation suction device after complete mass removal with a 0.5-cm surgical margin of healthy mucosa. Black asterisk, right salpingopharyngeal fold; white asterisk, left salpingopharyngeal fold.

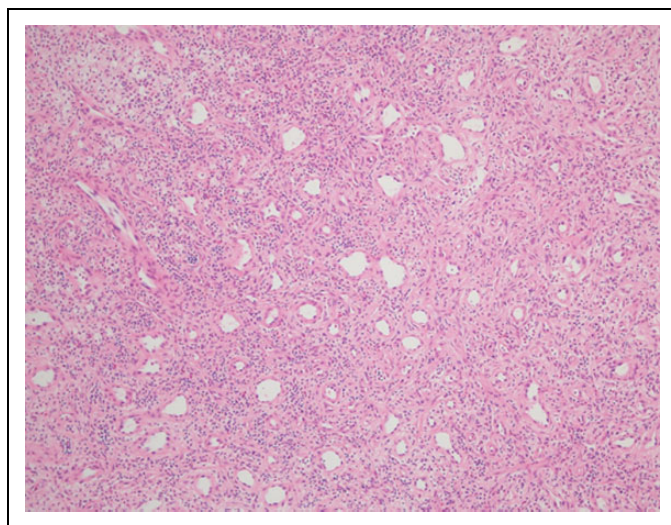


Figure 2. Histopathologic image showing multiple lobules of capillaries of varying caliber lined by endothelial cells and inflammatory granulation tissue showing superficial neutrophilic infiltrates in loose stromal background (H&E, ×100).

An accurate preoperative evaluation of the origin may be important for surgical planning, consequently preventing recurrences. Direct visualization with nasal endoscopy can usually be diagnostic, but image studies may be sometimes necessary for assessing the extent and suggesting the possible nature (site of origin, pattern of growth, and vascularization) of the lesion.⁵ Like LCH of the nasal cavity, we suggest nasopharyngeal LCH can be diagnosed only with nasopharyngoscopy. Diagnosis of LCH in case of small-sized mass arising from the anterior portion of the nasal cavity is not problematic, but the differential diagnosis includes a number of benign and malignant hypervascularized lesions, such as angiofibroma, angiomatous polyp, hemangioma, hemangiopericytoma, paraganglioma, and angiosarcoma.¹¹ Also, in case of nasopharyngeal LCH like our

patient, benign tumors such as choanal polyp, teratoma, meningoencephalocele, chordoma, paraganglioma, inverted papilloma, and adenoid hypertrophy should be taken into consideration in the differential diagnosis.¹²

Surgery is the treatment of choice for LCH of the nasal cavity. Regardless of LCH size, transnasal endoscopic surgery may be considered the ideal approach with low surgical morbidity and high long-term cure.⁴ However, in our case, the combination of the retrovelar approach using a 70° endoscope and transnasal approach was used. A key point to obtaining successful results is to perform the resection along the subperichondrial or subperiosteal plane, according to the location of the lesion, with a margin of normal mucosa all around.⁵

In conclusion, this report has 3 main points. First, this is the first case report of LCH originating from the nasopharynx which its etiologic factor may be hypothesized as the previous surgery. Second, there may be potential for being misdiagnosed as a tumor recurrence due to extremely rare location of nasopharyngeal LCH. Third, although endoscopic findings of nasopharyngeal LCH are similar to LCH of the nasal cavity, transoral retrovelar approach using a 70° endoscope may be required for complete surgical excision.

Authors' Note

The patient's permission was obtained.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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