Spontaneous Regression of a Large Nasal Hemangioma in a 55-Year-Old Male

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Abstract
Lobular capillary hemangiomas (LCHs) are benign vascular lesions of the skin, oral cavity, and, rarely, the nasal cavity that are histologically characterized by capillary proliferation and a lobular architecture. The etiology of LCH is not well understood, but the possible underlying factors include trauma, hormonal influences, and angiogenic growth factors. This case report describes the spontaneous complete regression of an LCH without further surgery although it was incompletely excised. To our knowledge, this is a rare case for a middle-aged man.

Keywords
hemangioma, spontaneous regression, inferior turbinate, nasal bleeding

A 55-year-old male was referred to the Department of Otolaryngology of our university hospital with a left nasal mass. He complained of left nasal obstruction and frequent nasal bleeding that had progressed over 6 months. He had high blood pressure, but he denied history of other systemic diseases, bleeding disorders, relevant facial trauma, and nasal surgery. There was no history of the use of anticoagulants or antiplatelets. Nasal endoscopy revealed a large reddish mass filling the left anterior nasal cavity. The posterior nasal cavity was not observed due to the mass (Figure 1A). His otolaryngologic examination was otherwise normal.

A computed tomography (CT) scan of the sinus revealed a dense soft tissue measuring 33 x 21 x 20 mm, which extended along the left inferior turbinate without bony destruction (Figure 2A). Magnetic resonance imaging (MRI) was recommended for evaluating the hemorrhagic mass, and it revealed a soft tissue mass with iso-signal intensity on T1-weighted imaging and heterogenous hyper-signal intensity on T2-weighted imaging with multiple signal void vascular structures, which suggested a vascular mass (Figure 2B).

Given the impression that the mass could be bleeding, the biopsy was not performed in the outpatient clinic. Surgery was planned for the removal of the mass. Using a pinpoint tip bovie and a suction coagulator, the mass was excised at its origin from the medial and inferior surfaces of the inferior turbinate with nasal endoscopy guidance. Significant bleeding occurred during the removal of the mass attached to the middle portion of the inferior turbinate. The surgery was discontinued because of the severe bleeding, and nasal packing was performed. The partially excised mass was sent to the pathology department, and histopathological examination confirmed the diagnosis of a lobular capillary hemangioma (LCH).

The patient planned to undergo embolization for the removal of the residual tumor but he did not want further surgery. He complained of persistent nasal congestion after discharge. Therefore, a nasal splint tube (LM Co, Ltd) was inserted into his left nasal cavity to relieve his nasal obstruction. He visited the outpatient clinic every 3 months for 1 year after surgery and every 6 months from the second year; he maintained the nasal splint tube in his left nasal cavity (Figure 1B). No residual mass was observed during the examination of his left nasal cavity by nasal endoscopy 2 years after surgery, and his follow-up CT showed complete resolution (Figure 3A and B). He had no further nasal obstruction, and further follow-up was not recommended.

Lobular capillary hemangiomas are benign vascular lesions of the skin, oral cavity, and, rarely, the nasal cavity that are

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histologically characterized by capillary proliferation and a lobular architecture. The etiology of LCH is not well understood, but the possible underlying factors include trauma, hormonal influences such as pregnancy or oral contraceptive pill use, and angiogenic growth factors. The common sites are the anterior nasal septum, inferior turbinate, vestibule, posterior nasal septum, and, less commonly, the middle turbinate.

Figure 1. A, Endoscopy shows a large reddish mass filling the left anterior nasal cavity. B, Nasal splint tube inserted into the left nasal cavity for relieving the nasal obstruction.

Figure 2. A and B, CT scans show dense soft tissue along the left inferior turbinate measuring $33 \times 21 \times 20\ mm^3$ without bony destruction. C and D, MRI reveals a soft tissue mass with iso-signal intensity on T1-weighted imaging and heterogeneous hyper-signal intensity on T2-weighted imaging with multiple signal void vascular structures. CT indicates computed tomography.

The diagnosis of a hemorrhagic mass is often clinically based on a history of a rapidly enlarging mass with progressive unilateral nasal obstruction and intermittent nasal bleeding. Radiologic studies such as CT and MRI are often used to diagnose an intranasal mass; CT may be used to ascertain bony destruction and MRI may be used for the differential diagnosis of an intranasal mass, especially a hemorrhagic mass.
Corticosteroids and propranolol have been introduced as treatments for nasal hemangiomas without major side effects. However, the principal treatment for hemangiomas has been complete removal with bleeding control to date. Most rhinologists agree that surgical intervention is the optimal treatment for lesions such as hemangioma because it provides more rapid and predictable outcomes of improved nasal breathing and cessation of nasal bleeding. The recurrence rate of LCH can be as high 16% due to incomplete excision.

Some hemangiomas in pregnant women regress after delivery, and the mechanism of natural regression has been studied. Vascular endothelial growth factors (VEGFs) may play important roles in the spontaneous regression of hemangiomas after delivery. The basis for this is that VEGFs rapidly decrease after delivery; a lack of VEGF is associated with apoptosis of endothelial cells, which leads to the regression of hemangiomas. However, most pregnant women undergo endoscopic removal because their masses do not regress spontaneously after delivery. Juvenile nasopharyngeal angiofibromas, on the other hand, have occasionally been reported to regress spontaneously without treatment such as surgery, even though surgical resection is their widely recommended treatment.

This case report describes the spontaneous complete regression of an LCH without further surgery, although it was incompletely excised. To our knowledge, this is a rare case for a middle-aged man.

Declaration of Conflicting Interests

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Figure 3. A, Endoscopy shows no the residual mass in the left nasal cavity 2 years after surgery. B, Follow-up CT shows complete resolution of the nasal mass. CT indicates computed tomography.