



# Angioleiomyoma of nasal septum: Case report and literature review



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## ABSTRACT

**Introduction:** Angioleiomyoma is a benign soft tissue tumor of smooth muscle origin with a vascular component and is an uncommon form of leiomyoma. Angioleiomyoma presenting in the nasal cavity is exceedingly rare and there are 57 reported cases in the literature worldwide. We present a new case of angioleiomyoma of the nasal septum and review its diagnosis and treatment.

**Study design:** Case report and Literature Review.

**Methods:** The medical records of a 69-year-old patient with an angioleiomyoma of the nasal septum were reviewed. The PubMed database was searched for literature describing angioleiomyoma of the nasal cavity using the key words “angioleiomyoma” with “nasal cavity,” “nasal septum,” “nose,” or “sinus.”

**Results:** A 69-year-old female patient presented with progressive right-sided nasal obstruction and epistaxis for one year in duration. Office examination revealed stigmata of recent bleeding and nasal endoscopy revealed a smooth, pink, vascular appearing mass arising from the right nasal septum. Computerized tomography with intravenous contrast revealed a 1.3 × 1.1 cm heterogeneously enhancing vascular lesion arising from the right nasal septum. The patient was taken to the operating room for endoscopic resection.

**Conclusion:** Angioleiomyoma of the nasal septum is a rare and challenging clinical diagnosis that requires detailed histopathologic examination. The differential diagnosis includes a variety of epithelial and mesenchymal derived tumors. Literature review suggests a female predilection with possible hormonal influence.

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## 1. Introduction

Angioleiomyoma is a benign soft tissue tumor of smooth muscle origin with a vascular component and is a rare form of leiomyoma. Like other sinonasal mesenchymal tumors, angioleiomyomas are uncommon in the nasal cavity and there are 68 reported cases in the literature worldwide [1–22]. Angioleiomyoma presenting in the nasal cavity is exceedingly rare and the first reported case of sinonasal angioleiomyoma was by Maesaka in 1966 [2]. A literature review revealed 16 reported cases on the nasal septum [1,4–8,19,20,22–25]. We present a new case of angioleiomyoma of the nasal septum, review its diagnosis, clinical and pathologic characteristics, and management.

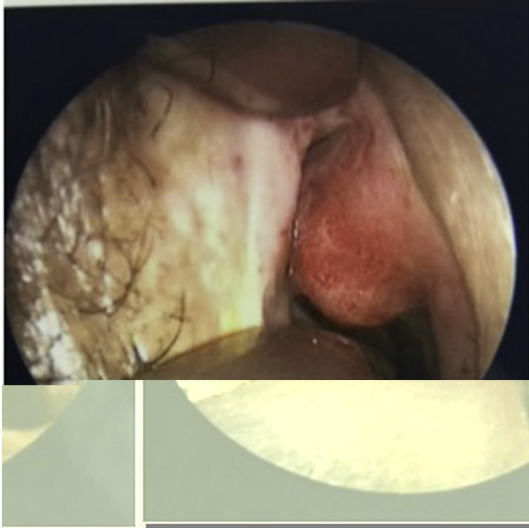
## 2. Case presentation

A 69-year-old African American female was referred to our Otolaryngology clinic with the chief complaints of progressive right-sided nasal obstruction and epistaxis for one year in duration. She had a history of allergic rhinitis and also endorsed sneezing and clear rhinorrhea. The patient was post-menopausal and had a past medical history of hypertension, hyperlipidemia, chronic gastritis, multiple renal cysts, renal artery aneurysm, and hyperaldosteronism. She denied tobacco use. She had no history of head or nasal trauma, sinonasal surgery, or history of cancer.

Upon physical examination, anterior rhinoscopy revealed crusting and stigmata of recent bleeding and nasal endoscopy revealed a smooth, pink, vascular appearing mass arising from the right nasal septum was visualized. The mass was touching the right lateral wall and completely filled the superior aspect of the right nasal vestibule (Fig. 1). A computerized tomography scan with intravenous contrast revealed a 1.3 × 1.1 cm heterogeneously enhancing vascular lesion within the right anterior nasal cavity that

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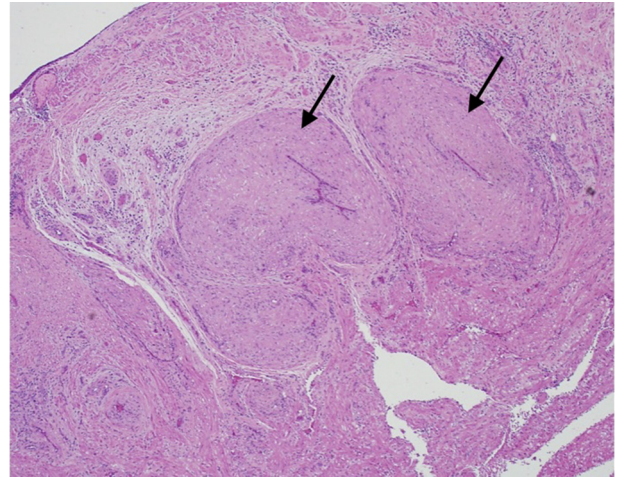


**Fig. 1.** Endoscopic image of the patient's lesion on the right nasal septum.

appeared to arise from the nasal septum (Fig. 2). Given the benign appearance of the lesion, further imaging was not obtained.

The patient was taken to the operating room for endoscopic resection. The mass was observed to extend to the superior aspect of the internal nasal valve without involvement of the upper lateral nasal cartilage. The mass was removed en bloc including a wide cuff of normal mucosa circumferentially around the mass before dissecting the mass from the nasal septal cartilage, preserving perichondrium, without disrupting the nasal valve, upper lateral cartilage, or right nasal ala. The specimen was sent for permanent pathology. The gross specimen was  $3.0 \times 2.0 \times 1.2$  cm in size and tan and pink in appearance with a smooth and glistening surface. Hematoxylin and Eosin (H&E) stain revealed a well-circumscribed tumor with proliferation of fascicles of smooth muscle cells and surrounding thick-walled vessels with narrow lumens (Fig. 3). The endothelial cells lacked pleomorphism, mitosis, nuclear atypia, or necrosis. Immunohistochemistry was positive for Smooth Muscle Actin (SMA), which revealed the smooth muscle cell component, as well as Early Growth Response protein-1 (ERG1), which highlighted the endothelial cells lining narrow vessel lumens (Fig. 4).

The patient's surgery was uneventful and she healed appropriately. A septoplasty was performed in conjunction with the



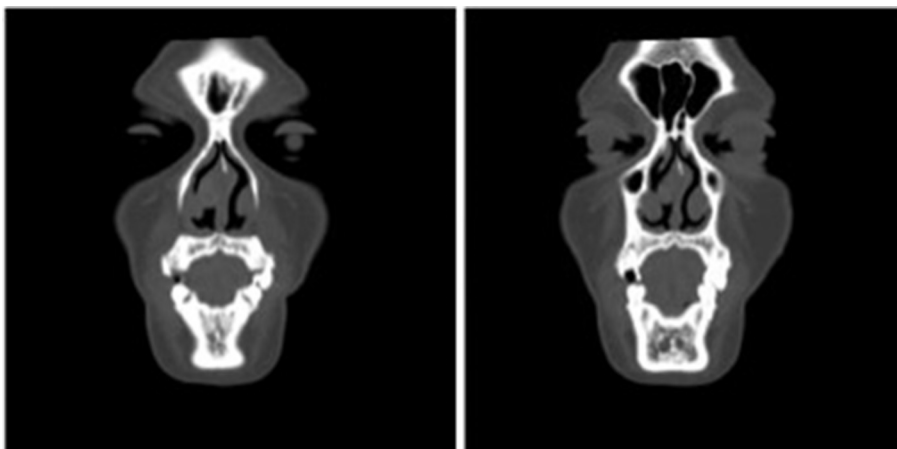
**Fig. 3.** Medium power view (H&E stain) demonstrating the well circumscribed smooth muscle cell proliferation with thick vessel walls (arrows) and narrow lumens.

resection for surgical access. No septal perforation was noted intraoperatively or at 3 months post operatively. The patient has not had a recurrence of her tumor to date.

### 3. Discussion

Sinonasal angioleiomyomas make up less than 1% of leiomyomas in the body [5,10]. Roughly 10% of these tumors are located in the head and neck region and presenting sites include the nose, auricle, lips, and neck [1,21]. This slow growing, benign tumor may present as a solitary mass that may or may not be painful. Other typical presenting symptoms may include nasal obstruction, epistaxis, facial pain, recurrent sinusitis, and can be associated with a septal deviation [1]. Angioleiomyoma is not often included in the clinician's differential diagnosis of an obstructive nasal mass. The differential diagnosis includes both benign and malignant tumors of the nasal cavity including inverted papilloma, nasal angiofibroma, hemangioma, hemangiopericytoma, solitary fibrous tumor, desmoid fibromatosis, peripheral nerve sheath tumors, and sinonasal sarcomas including leiomyosarcoma and rhabdomyosarcoma [1,22].

The rare nature of these tumors is attributed to the paucity of smooth muscle tissue in the region. Smooth muscle in the nasal



**Fig. 2.** Computerized Tomography images in the coronal plane depicting a nasal cavity mass arising from the right nasal septum.

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