

## Case Report

# Sinonasal angiosarcoma: a rare case of recurrent vascular malignancy managed with endoscopic excision and radiotherapy

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## ABSTRACT

Angiosarcoma is an aggressive endothelial malignancy that is rarely found in the nasal cavity. Objectives of the study were to present a rare case of sinonasal angiosarcoma, treated via endoscopy and radiotherapy. A 50-year-old hypertensive woman presented with one month of recurrent left epistaxis and nasal obstruction. Endoscopy revealed a firm, bleeding reddish-black mass medial to the middle turbinate. CT imaging showed a heterogeneously enhancing lesion extending into the nasopharynx and ethmoidal cells. Endoscopic excision revealed a 5×2.5×1.5 cm lesion; histopathology showed retiform and capillary vascular channels with endothelial hob nailing and focal necrosis. Immunohistochemistry was positive for CD34, BCL2, CD99; Ki 67 was ~25% with possibility of hemangioendothelioma. Recurrence appeared at three months and was excised, confirming angiosarcoma. The patient underwent 30 cycles of radiotherapy. Sinonasal angiosarcoma is aggressive with high recurrence risk. Thorough histopathological evaluation, combined treatment, and close follow-up are essential.

**Keywords:** Sinonasal angiosarcoma, Histopathology, Immunohistochemistry, Radiotherapy

## INTRODUCTION

Angiosarcoma is a high-grade malignant tumor derived from vascular endothelial cells, accounting for less than 2% of soft-tissue sarcomas.<sup>1</sup> Sinonasal localization is especially rare, representing under 0.1% of head-and-neck malignancies<sup>2</sup>. In a study of ten cases from the armed forces institute of pathology registry, patients typically presented in middle age (~47 years) with epistaxis and bloody nasal discharge; tumors averaged ~4.3 cm and commonly involved either the nasal cavity or maxillary sinus.<sup>2</sup> Histologically, angiosarcomas are characterized by anastomosing vascular channels lined by atypical endothelial cells, frequent mitoses, necrosis, and vascular proliferation.<sup>3</sup> Immunohistochemistry usually shows strong positivity for endothelial markers such as CD31, CD34, factor VIII and actin; Ki 67 labeling is often high.<sup>3</sup>

Management involves surgical excision with clear margins plus adjuvant radiotherapy, which offers better

local control in sinonasal cases.<sup>1</sup> Despite aggressive treatment, local recurrence is common, and long-term prognosis remains guarded.

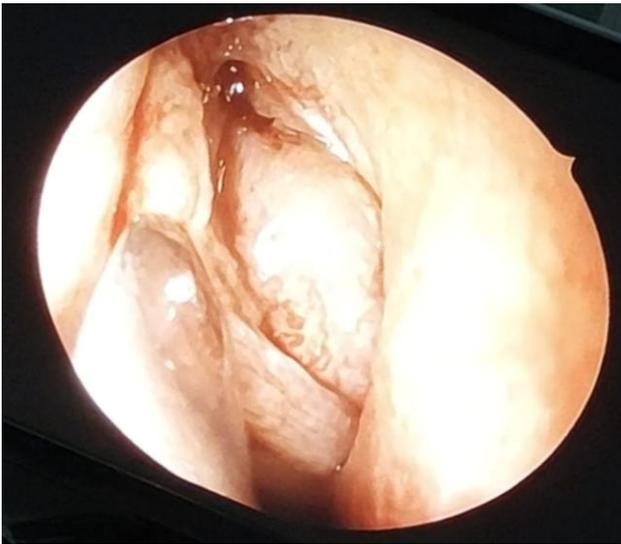
## CASE REPORT

A 50-year-old hypertensive woman presented with one month of recurrent left epistaxis and nasal obstruction. Nasal endoscopy revealed a firm, encapsulated reddish-black mass medial to the left middle turbinate, extending to the choana and bleeding on contact. Oral cavity and oropharyngeal examinations were unremarkable. Routine labs showed mild anemia. CT scans demonstrated a heterogeneously enhancing soft tissue lesion occupying the posterior left nasal cavity, extending into the nasopharynx and ethmoidal air cells.

Under general anaesthesia, a 5×2.5×1.5 cm globular lesion with grey-white and grey-brown cut surfaces was excised endoscopically. Microscopy revealed respiratory epithelium overlying neoplastic tissue composed of

anastomosing retiform and capillary vascular channels lined by endothelial cells with hob-nailing and focal necrosis. Immunohistochemistry showed CD34 positivity in vessels, BCL2 positivity in endothelial and occasional stromal cells, CD99 positivity in endothelial cells, and a Ki 67 index of ~25%, suggesting possibility of hemangioendothelioma.

Close surveillance was adopted. Three months later, follow-up endoscopy revealed a bleeding mass lateral to the middle turbinate. Repeat CT confirmed recurrence. Complete excision was performed, and histopathology confirmed angiosarcoma. Postoperatively, the patient underwent 30 cycles of radiation therapy.



**Figure 1: Nasal endoscopic image of encapsulated bleeding mass in left nasal cavity.**

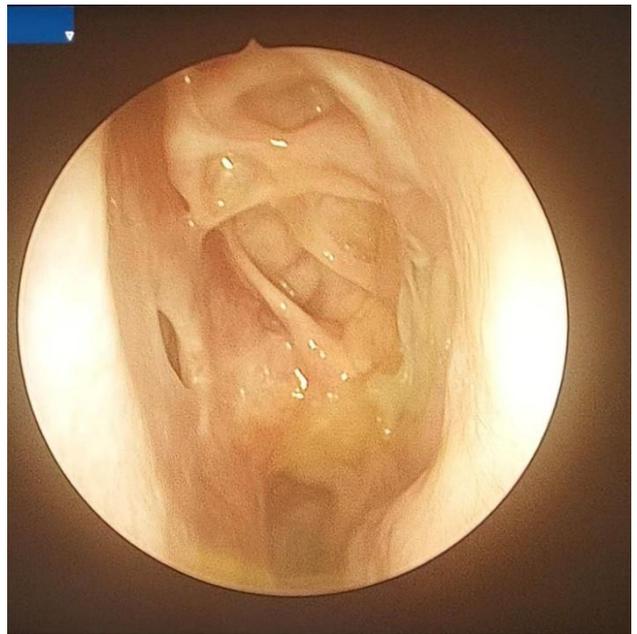


**Figure 2: Preoperative imaging of contrast enhanced CT scan.**

\*Axial and coronal sections) reveals heterogeneously enhancing lesion filling posterior aspect of the left nasal cavity, extending to ethmoidal air cells with erosion of roof of ethmoidal air cells.



**Figure 3: Surgical specimen excised from left nasal cavity.**



**Figure 4: Endoscopic image of left nasal cavity 3 months post treatment.**

## DISCUSSION

Sinonasal angiosarcoma is exceptionally rare, complicating both diagnosis and management.<sup>2</sup> Histologically, it mimics benign vascular lesions but displays malignant features and high endothelial marker expression (CD31, CD34, factor VIII).<sup>3</sup> This case underlines that neoplasms with vascular features should prompt aggressive investigation, including immunohistochemistry, particularly CD34, CD31 and Ki 67.

Treatment combining surgical excision and radiotherapy can improve local control, though recurrence rates remain high.<sup>1</sup> In our case, recurrence occurred within 3 months despite clear initial margins, underscoring the tumor's aggressive nature. Imaging should be closely monitored postoperatively; CT/MRI helps detect early recurrence.

Prognosis depends on tumor size, margin status, and anatomic site; tumors  $\geq 4$  cm and those involving paranasal sinuses carry worse outcomes.<sup>4</sup> In AFIP data, six of ten patients died within approximately 29 months; two remained disease-free at  $\sim 21$  years.<sup>2</sup> Favourable factors include small size, early detection, and aggressive multimodal treatment.

## CONCLUSION

Sinonasal angiosarcoma, though rare, should be considered among vascular-appearing sinonasal masses. Detailed histopathological assessment with immunohistochemical confirmation is crucial. Optimal management entails thorough surgical excision with clear margins, adjuvant radiotherapy, and vigilant postoperative surveillance, due to high recurrence risk.

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