

A Sinonasal Mass with Epistaxis: A Rare Subtype of Common Pathology

Eiman Al-Ajmi^{1*}, Mohammed Al-Washahi², Asim Qureshi³ and Abir Bait Faraj⁴

¹Sultan Qaboos University, Sultan Qaboos University Hospital, Department of Radiology and Molecular Imaging, Muscat, Oman

²Sultan Qaboos University, Sultan Qaboos University Hospital, Department of Surgery, ENT Division, Muscat, Oman

³Sultan Qaboos University, Sultan Qaboos University Hospital, Department of Pathology, Muscat, Oman

⁴Sultan Qaboos Hospital, ENT Department, Salalah, Oman

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*Corresponding author: ealajmi@squ.edu.om

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A 32-year-old female patient presented to the Ear, Nose, and Throat (ENT) clinic with a two-month history of nasal bleeding and discharge from the left nostril. Her past medical history was unremarkable, and she was not taking any regular medications. On examination, she was afebrile, maintaining normal saturation in room air, and her heart rate and blood pressure were within normal limits. There was no evidence of diplopia or facial tenderness. Nasal endoscopic examinations showed a large polypoidal, rubbery-looking lesion filling the left nasal cavity and bulging from the left maxillary sinus through the osteomeatal complex and extending posteriorly to the posterior choana, with mild septum deviation [Figure 1A]. The rest of the nasal examination was unremarkable. Computed tomography (CT) of the paranasal sinuses was done and showed a hyperdense lesion in the left maxillary sinus extending to the left nasal cavity [Figure 2 A-C]. The lesion was associated with bone remodeling with expansion and bone thinning but without aggressive bone changes. Following that, magnetic resonance imaging (MRI) was done and showed that the lesion is lobular in shape with a T2 hypointense rim. The lesion was T1 hypointense with mild internal hyperintensity and showed intense central lobular enhancement [Figure 2 D-F].

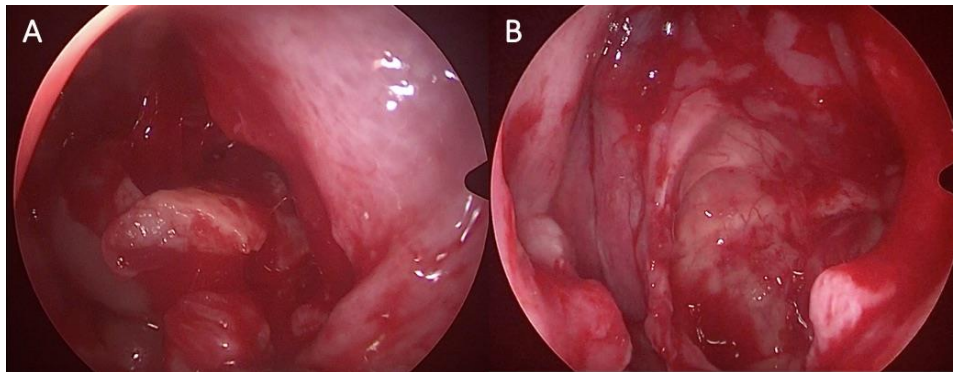


Figure 1: (A) Endoscopic view shows a mass filling the left nasal cavity bulging through the osteomeatal complex and extending to the posterior choana and the edge of the biopsy area. (B) Endoscopic view after the mass resection and medial maxillectomy type III.

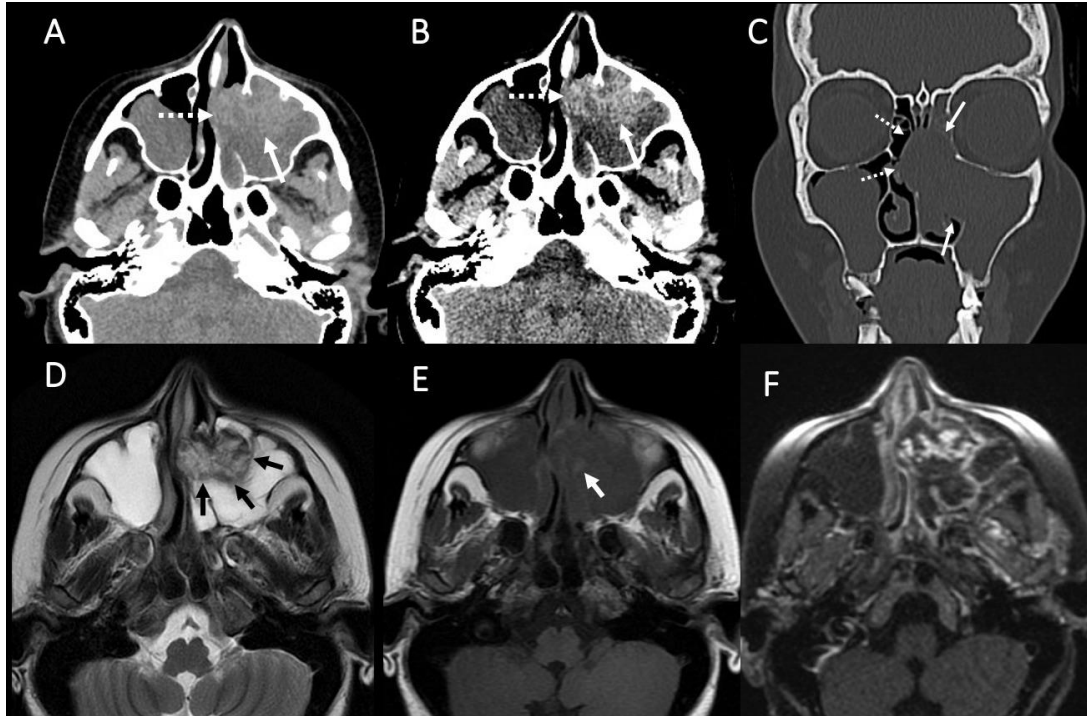


Figure 2: (A, B) Non-enhanced axial CT images of the paranasal sinuses show a lesion in the anterior aspect of the left maxillary sinus (solid arrow) extending to the left nasal cavity (dashed arrow). (B) The lesion is hyperdense which is accentuated using a narrow window in image. (C) Coronal CT image with bone algorithm demonstrates bone expansion and remodeling (solid arrows) with expansion and right sided deviations of the nasal septum (dashed arrows). (D) Axial T2-weighted image shows the lobulated shape of the lesion with hypointense rim (arrows) and internal heterogeneity. (E) T1-weighted image shows that the lesion is isointense with areas of intrinsic T1 hyperintensity (arrow). (F) Post contrast image demonstrates internal avid lobular enhancement. The images also show features of left maxillary obstructive sinusitis due to the lesion. Incidental retention cyst in the right maxillary sinus is seen.

Question

What's the most likely diagnosis?

- a. Inverted papilloma
- b. Mycetoma
- c. Sinonasal angiomatous polyp
- d. Hematoma
- e. Melanoma

Answer

- c. Sinonasal angiomatous polyp

Discussion

The patient underwent right-side endoscopic sinus surgery for surgical resection of the lesion and type III endoscopic medial maxillectomy [Figure 1B]. Histological examination of the tissue confirmed the diagnosis of sinonasal angiomatous polyp with evidence of congested and dilated ectatic vessels, occasional areas showing thick blood vessels with luminal thrombosis, and those vessels were lined by endothelial cells, some of which displayed nuclear atypia under high power magnification [Figure 3].

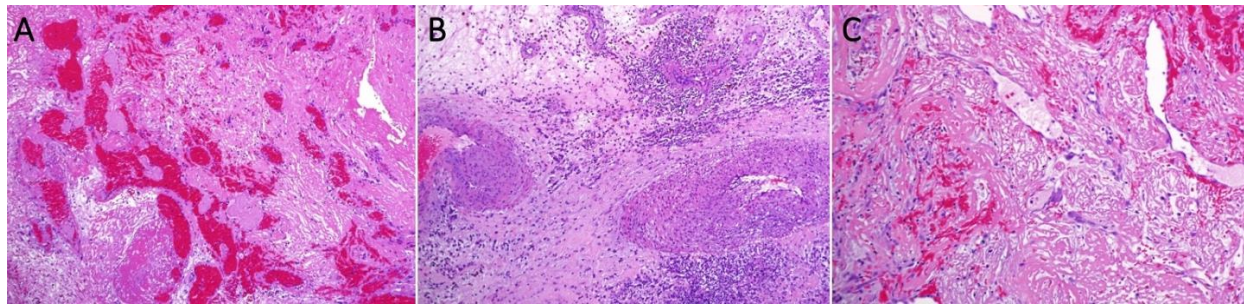


Figure 3. (A) H and E-stained slide at 10x magnifications showing numerous dilated and constricted blood vessels. (B) H and E-stained slide at 10x magnifications showing thick-walled blood vessels with thrombosis. (C) H and E-stained section at 40x magnifications showing a blood vessel lined by endothelial cell showing nuclear atypia.

Sinonasal polyps can be classified histologically into five different groups: edematous, glandular, fibrous, cystic, and angiomatous. Sinonasal angiomatous polyps (SAPs) are relatively rare and account for 5% of sinonasal polyps.¹ Various terms, such as cavernous hemangioma, hemangioma, organizing hematoma, angioectatic, or angiomatous polyp, have been used to describe SAPs in the literature.

The most common presenting symptoms of SAP are nasal obstruction and epistaxis, and they occur in a wide age range without gender predominance.^{2,3} Sinonasal endoscopy reveals a polypoidal mass originating from the maxillary sinus blocking the osteomeatal complex with reddish areas and necrosis and it typically bleeds on touching and can extend posteriorly to the choana or nasopharynx.^{2,4}

On CT, SAPs are heterogeneous, with areas of relatively high density, although calcifications are rare.⁵ The enhancement is heterogenous.^{3,5} The presence of bone changes is a characteristic feature of SAPs which can manifest as bone remodeling, expansion, erosions, and destruction.⁵ Hyperostosis is a feature related to chronic sinusitis due to the obstruction of the maxillary sinus by SAPs.⁵

MRI typically shows a circumscribed lesion with bone thinning. SAPs are usually T1 hypointense, with some cases showing T1 isointensity.² Tam et al., on the other hand, described T1 hyperintensity as in our patient, which is likely related to the presence of internal hemorrhage.⁴ The lesions are classically T2 hyperintense with a hypointense rim, as seen in our case as well.^{2,4} SAPs enhance avidly after contrast injection and show an internal enhancing nodular appearance.^{2,4} These lesions also show progressive enhancement in dynamic contrast-enhanced MR imaging.²

The histopathological hallmark of SAPs is extensive vascular proliferation and ectasia, with deposition of pseudoamyloid and the presence of atypical stromal cells.^{1,6}

Complete surgical resection with cauterization of the original attachment point is curative, and the risk of recurrence is low.^{2,5} The clinical and radiological features of SAPs can mimic other sinonasal pathologies.^{2,5,7} The differential includes other inflammatory sinonasal polyps, inverted papilloma, and mycetoma.^{2,5} Other rare sinonasal vascular lesions can mimic SAPs, like nasal lobular hemangioma.⁸ SAPs can also mimic malignant tumors like squamous cell carcinoma and melanoma when there is aggressive bone destruction.²

In conclusion, recognizing this rare type of nasal polyp is essential, as surgical resection is curative. CT and MR imaging can be used to characterize the lesion, determine its extent, look for differentials, and assist in pre-operative planning.

Disclosure

The authors declared no conflicts of interest. The patient gave verbal consent.

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