

## Case Report

# Sinonasal angiomatous polyp: a case report

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### ABSTRACT

Sinonasal angiomatous polyp (SAP) is a rare variant of sino-nasal polyp. Sinonasal inflammatory polyps are classified histo-pathologically into 5 types: edematous, glandular, fibrous, cystic and angiomatous. They present with various different patterns and clinical features like epistaxis, nasal discharge, nasal blockage and characterised histo-pathologically by presence of prominent dilated capillary-type blood vessels. It constitutes about 4-5% of all nasal polyps. They usually present as a unilateral, painless, soft, gelatinous, translucent and polypoidal mass in nasal cavity. These polyps can grow rapidly and aggressively causing erosion of bone and severe bleeding like a cancerous lesion, making difficult to differentiate it from malignant lesion. Various differential diagnosis of SAP include inflammatory polyp, haemangioma, mucocele, fungus ball, inverted papilloma, juvenile naso-pharyngeal angiofibroma, and malignant tumors like squamous cell carcinoma, adenoid cystic carcinoma, and melanoma MRI is considered better than CT scan for diagnosis. Treatment of choice is endoscopic surgical excision with restoration of sinus drainage

**Keywords:** SAP, Maxillary sinus, Endoscopic sinus surgery

### INTRODUCTION

Sinonasal angiomatous polyp (SAP), a type of sinonasal polyp, is a rare non-cancerous lesion. It is also called as angiectatic polyp and is characterized by extensive vascular proliferation and angiectasis with deposition of pseudoamyloid and presence of atypical stromal cells.<sup>1</sup>

These polyps can grow rapidly and aggressively causing bone erosion and severe bleeding like a malignant lesion, making it difficult to differentiate it from a malignant lesion. Differentiation is important as important the lines of management are different.

Therefore, proper preoperative clinical and radiological diagnosis is imperative in these patients to avoid unnecessary extensive surgery. Only few of SAPs cases have been reported in literature till date.

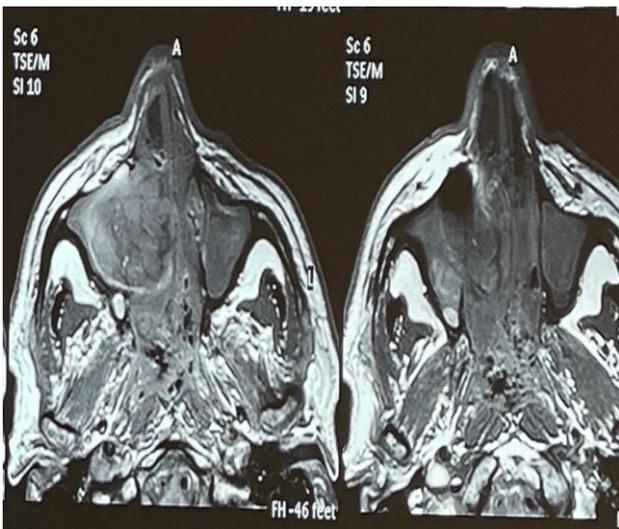
### CASE REPORT

A 56 -year-old male patient presented to casualty with the complaints of severe bleeding from the right nasal cavity, low blood pressure and shock. Patient was admitted for the same problem in our hospital two months back, with diagnosis of nasal polyposis on CT scan. Patients haemoglobin was low that time, being unfit for surgery, so patient was discharged and advised to come for surgery after one month. There was no history of aggravating or relieving factors. No history of trauma or bleeding diathesis. There was no history in the family of any bleeding or clotting disorders.

Patient was shifted immediately to ICU for shock management. Bilateral anterior nasal packing was done. Vision, pupillary reflexes and extra-ocular movements were normal. Cranial nerves examination was normal. Angiography was done with showed maxillary

artery aneurysm, so maxillary artery embolization was done to control bleeding. After pack removal nasal endoscopic examination was done, which showed thick blood clots in the right nasal cavity with polypoidal mass filling whole of right nasal cavity. CT scan of nose and paranasal sinuses was done which showed a mildly enhancing soft tissue density mass lesion in right maxillary sinus with complete opacification of right antrum and expansion of the medial antral wall. The mass was extending into the right nasal cavity, obliterating the middle and inferior meatus. It was extending to the posterior choana, and was displacing septum to the left. All other sinuses were normal. MRI of nose and sinus with contrast was done which showed T2 hyperintense enhancing lesion about 31×29×25 mm in the inferomedial aspect of right maxillary sinus and right nasal cavity, with erosion of medial wall of right maxillary sinus. Lesion was causing mass effect over the nasal turbinates, along with thinning of right side of hard palate (Figure 1).

Patient was planned for endoscopic medial maxillectomy under general anaesthesia after informed consent. Intraoperatively, reddish polypoidal mass with massive blood clots (Figure 2) was seen arising from the maxillary ostium, pushing inferior and middle turbinates towards the septum, occupying whole of right maxillary sinus cavity. Medial wall of the maxillary sinus was eroded (Figure 3). Inferior turbinate removed, uncinectomy done and medial maxillectomy was performed. Ostium widened and complete excision of the tumor was done. The specimen sent for histopathological examination, which showed a diagnosis of SAP (Figure 4). Bilateral anterior nasal packing done, and patient was discharged after removing pack. After 8 months, the patient is disease free and long term follow up is awaited.



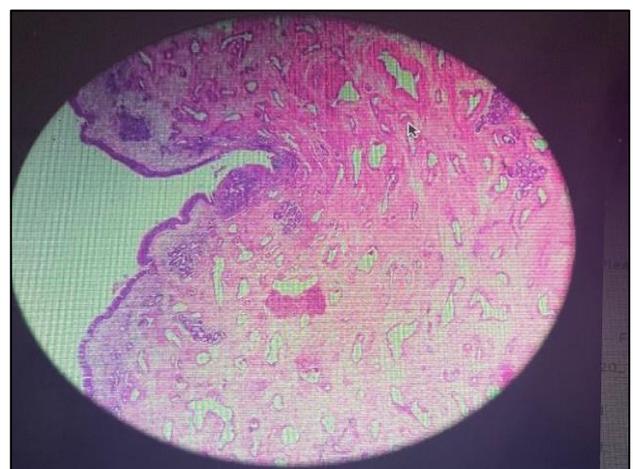
**Figure 1: MRI of nose and sinus with contrast which showed T2 hyperintense enhancing lesion about 31×29×25 mm in the inferomedial aspect of right maxillary sinus and right nasal cavity, with erosion of medial wall of right maxillary sinus.**



**Figure 2: Intra-operative picture showing reddish polypoidal mass with massive blood clots.**



**Figure 3: Angiomatous polyp after complete removal.**



**Figure 4: Histopathology picture of angiomatous polyp.**

## DISCUSSION

Sinonasal inflammatory polyps are classified histopathologically into 5 types: edematous, glandular, fibrous, cystic, and angiomatous. Among them, angiomatous nasal polyp is a uncommon benign lesion that accounts for only 4-5% of all sino-nasal polyps (SNP).<sup>1,2</sup> Also called as angiectatic polyp, cavernous haemangioma, pseudotumor, inflammatory granuloma telangiectaticum, pseudoangioma, organized or organizing hematoma, vascular granuloma, haemorrhage necrotic polyp. In this case we have used the term “angiomatous polyp” because of typical histopathology features of extensive vascular proliferation, haemorrhage, and infarction.

Clinical symptoms of SAP are varied and nonspecific.<sup>3</sup> Most common symptoms of SAP are epistaxis, nasal discharge and nasal blockage. Other symptoms include decrease sense of smell, proptosis, snoring, headaches, facial swelling, exophthalmos and visual disturbances. They usually present as a unilateral, painless, soft, gelatinous, translucent and polypoidal mass in the nasal cavity. SAP due to their local aggressiveness can cause extensive destruction of bone like a neoplastic process and should be differentiated from malignancy.<sup>4</sup> In our case, the patient presented with severe epistaxis and hypovolemic shock.

The exact etiology of SAP is not known. However, the two important hypotheses for the pathogenesis of SAPs are-<sup>4,5</sup> 1) First hypothesis is, it's an antrochoanal polyp derivative. According to Batsakis, there are four extra-antral sites i.e., ostium of sinus, polyp pedicle, posterior end of inferior turbinate, posterior choana, or nasopharynx where strangulation or vascular compromise can occur. Vascular compression would ultimately lead to vascular dilatation, stasis, edema and ischemia of the polyp. This, in turn, leads to venous infarction, thrombosis formation, and neovascularization and fibrosis of the polyp. 2) Another theory is from the haematoma of the sinus ostium. Haematoma due to any reason like trauma, surgery, inflammation and/or allergy of the maxillary sinus and nasal cavity, bleeding diathesis, ruptured aneurysm leads to poor ventilation and drainage of the sinus which leads to persistent negative intra-sinusal pressure that subsequently leads to organization and fibrous degeneration of the haematoma. Reactive and reparative changes with neovascularization then occur which leads to formation AP.

Differential diagnosis of SAP include inflammatory polyp, haemangioma, mucocoele, fungus ball, inverted papilloma, juvenile nasopharyngeal angiofibroma, and malignant tumors like squamous cell carcinoma, adenoid cystic carcinoma, and melanoma.<sup>6,7</sup> Hemangioma (cavernous/capillary) also presents with recurrent bleeding, but they usually arise from the anterior part of the septum and also the diagnosis was not supported by radiological findings, so excluded. Angiomatous

antrochoanal nasal polyp (AAP) can also be confused with juvenile angiofibroma as both presents with unilateral nasal obstruction and bleeding. Main feature which differentiates SAP from juvenile angiofibroma is that angiofibroma usually shows extension into the pterygopalatine fossa and sometimes intracranially also, with marked enhancement on contrast. Inverted papillomas presentation is also same as SAP and are difficult to distinguish from SAP based on clinical, radiological features. However, SAP usually show more prominent vascular changes on histo-pathology, than inverted papilloma. Another differential diagnosis is malignancy.<sup>8</sup> They resemble malignancy due to their aggressive nature and features of bone erosion. Malignant lesions are mostly seen in 6<sup>th</sup> and 7<sup>th</sup> decades with male predominance. Typical CT scan findings in case of a malignant lesions extensive bony destruction, indistinct edges, loss of fat planes and heterogeneous enhancement on post contrast which are not same as seen in SAP.

Because the management of these conditions is different, an accurate diagnosis is important. In radiological examination, MRI is considered better than CT scan for the diagnosis.<sup>9</sup> Contrast-enhanced CT scans usually shows angiomatous polyps as non-enhancing or minimal enhancing, expansive nasal lesion in the maxillary sinus with bony wall destruction without pterygopalatine fossa involvement. T2-weighted images on MRI show internal heterogeneous hyperintensity with a peripheral hypointense rim and postcontrast images show a strong nodular and patchy enhancement.

There is no standard guideline for the management of these angiomatous polyps. However, the endoscopic surgical excision with restoration of sinus drainage is considered to be the treatment of choice.<sup>10</sup> Regular follow-up is recommended to check for any recurrence. The prognosis with complete surgical excision is good and the recurrence is usually rare.

## CONCLUSION

SAP being a rare lesion, can cause a significant diagnostic dilemma. The clinical presentation, radiological and histopathological features together provide a definitive diagnosis. The treatment of choice is endoscopic surgical excision of the mass and restoration of ventilation and drainage of all sinus. Prognosis is good and recurrence is very rare, if excised completely.

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