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Locally Aggressive Nasal Polyp Masquerading As A Malignant Mass – A Case Report

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ABSTRACT
Angiomatous nasal polyp (ANP) is a rare entity of inflammatory sinonasal polyp, constituting 4 to 5% of all nasal polyps[1,2]. Without knowledge of the typical clinical presentation and the complete study of imaging findings, the entity tends to be clinically and radiologically confused with neoplastic processes and even malignancy.[5] Their diagnosis and management requires more detailed evaluation in respect to classical antrochoanal polyps. In both antrochoanal polyps and angiomatous nasal polyps, bone destruction is seen as a rare exceptional finding. We present an interesting case of angiomatous nasal polyp. CT finding also supported the clinical impression of neoplastic mass but biopsy was negative for malignancy. The biopsy confirmed the final impression of angiomatous nasal polyp.
Angiomatous antrochoanal polyps are rare variants that require special attention both at diagnosis and during surgery. The signs of bone destruction and epistaxis suggest additional pathologies including inverted papilloma, lobular capillary haemangioma and carcinoma as differential diagnoses.
Keywords: *Antrochoanal polyp, Angiomatous nasal polyp, Bone destruction*

INTRODUCTION

Nasal polyps are chronic edematous mucosa attached by a pedicle, arising from nose or paranasal sinus, having a characteristic appearance and a common occurrence[2].The most common subgroup of nasal polyps are antrochoanal polyps. Angiomatous nasal polyps, on the other hand, are a rare variant of antrochoanal nasal polyps[3]. Angiomatous nasal polyps (ANPs) are also known as angiectatic nasal polyps. Angiomatous nasal polyp can grow rapidly and exhibit an aggressive clinical behavior that can simulate malignancy preoperatively[1]. The clinical and radiological characteristics of these lesions have considerable potential for confusion with neoplastic processes, including juvenile nasopharyngeal angiofibroma, inverted papilloma, and hemangioma. We report a case of angiomatous antrochoanal polyp which presented with nasal obstruction, swelling over cheek and occasional nasal bleeding.

CASE HISTORY

A 45-year-old male, presented in ENT OPD, with chief complaints of nasal obstruction and swelling over left cheek since 3 yrs, change in voice and history of occasional bleeding from left side of nose for one year.

On local examination (Fig 1), there was a visible swelling over the left cheek and widening of left nasal cavity. Tenderness could be appreciated over the dorsum of nose and left maxillary antrum.

Fig. (1)

On anterior rhinoscopy, there was discharge and a reddish polypoidal mass was visible, which was insensitive to touch, did not bleed on touch, could be probed medially but not laterally. The septum was pushed to the right side. On examination of the throat, there was bulging of soft palate on left side.

The routine investigations were normal.

X-ray PNS (fig.2) showed opacification in the region of the left maxillary antrum, left ethmoidal air cells and left nasal cavity with erosion of lateral wall of left maxillary antrum.

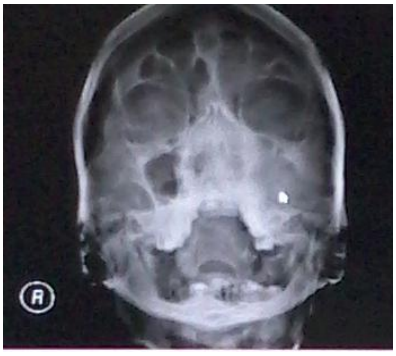


Fig-2: X-ray PNS showing opacification in the region of the left maxillary antrum, bilateral ethmoidal air cells and left nasal cavity with erosion of lateral wall of left maxillary antrum.

Then patient was sent to the radiology department of STGH for CT scan nose & PNS.

CECT nose and PNS (Fig. 3- A and B) showed a heterogeneously enhancing large expansile polypoidal soft tissue density mass filling the whole of left maxillary antrum, extending into the left nasal cavity, eroding the walls of maxillary antrum with opacification of left ethmoid air cells and left frontal sinus. The lesion was noted to show focal areas of contrast enhancement more at the periphery of lesion.The lesion was causing marked deviation of the nasal septum to the right side. On CT, the first possibility of a malignant mass was kept and second dfferential of a malignant change in a preexisting antro-choanal polyp of maxillary sinus was maintained.

MRI of the PNS (Fig.4-A and B) showed a large expansile polypoidal mass lesion in left maxillary antrum causing erosion of its walls extending medially into left middle and inferior meatus via its medial wall, into the ipsilateral posterior choana and nasopharynx and was seen indenting the soft palate with consequent opacification of left ethmoid and frontal air cells. The lesion was causing deviation of the nasal septum to right side. Superolaterally the lesion was noted to erode the infero-medial wall of the left orbit and was extending into the extra-conal space. The changes on MRI were seen to corroborate the CT findings and the same imaging differentials as the previous CT scan was maintained.

A subsequent punch biopsy was performed which revealed an angiomatous nasal polyp with the extent as specified above.

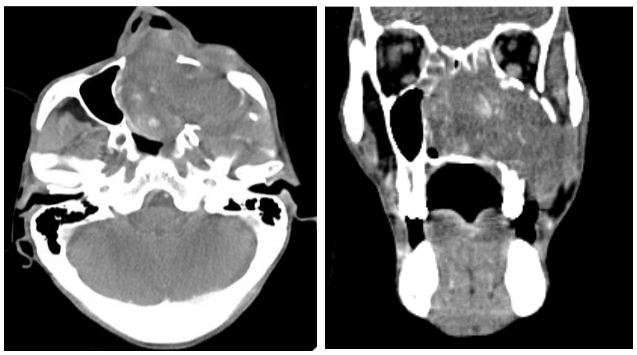


Fig-3(A) **Fig-3(B)**

CECT nose and PNS axial-A and coronal-B showing a heterogeneously enhancing large expansile polypoidal soft tissue mass filling the whole of left maxillary antrum, extending into left nasal cavity and eroding the walls of maxillary antrum.

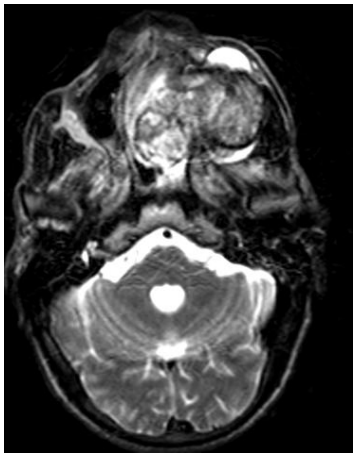
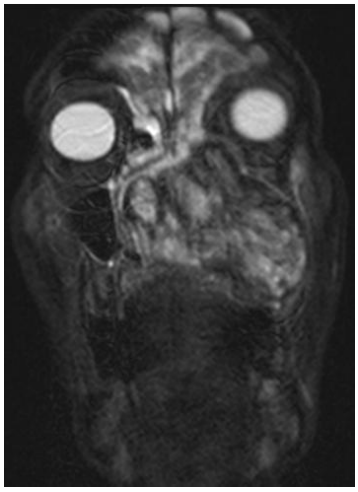


Fig-4 (A)



(B)

T2W MR image, (A-axial, B-coronal) of the PNS showed a large expansile polypoidal mass lesion in left maxillary antrum causing erosion of its walls extending medially into left middle and inferior meatus via its medial wall, into the ipsilateral posterior choana and nasopharynx.

DISCUSSION

Angiomatous nasal polyp is a rare entity of inflammatory sinonasal polyp, constituting 4 to 5% of all nasal polyps[1,2].

Most common clinical presentation of angiomatous nasal polyp is nasal obstruction. Other symptoms are loss of smell sensation, epistaxis,[11] exophthalmoses, proptosis and visual disturbances[6].On anterior rhinoscopy, they appear as a smooth, bluish gray/reddish polypoidal mass with shiny surface. Angiomatous nasal polyp may exceptionally cause extensive bone erosion and remodeling. This erosive feature when present raises the suspicion of a malignant process as in our case. Being vascular, they may also be confused with other benign vascular lesions, such as nasopharyngeal angiofibromas.

The angiomatous nasal polyp though rare can pose a difficult diagnostic problem. These are benign, pseudoneoplastic lesions, managed on the same lines as the choanal polyps. Due to the presence of pseudosarcomatous changes, they need to be differentiated from a soft tissue sarcoma (e.g. a malignant fibrous histiocytoma).

On CT scan, the angiomatous nasal polyp usually shows a heterogeneous density filling the nasal cavity and/or maxillary sinus and the mass shows minimal enhancement at the edge of the lesions. These findings on CT were correlated with the mixture of the extensive areas of hemorrhage, organized thrombi, necrosis, and inflammatory cells in this part of the polyp. The inflammatory, necrotic, and cystic tissues were responsible for the low density of the mass on CT, and the high density of the mass was due to hemorrhagic centres. The central part of the polyp showed no enhancement and only minimally peripheral enhancement, as observed in our case. Although all cases were filled with clusters of irregularly shaped, thin-walled blood vessels and extensive vascular proliferation and ectasia, the dilated vessels in the center were slow due to thrombus formation and the substantial infarction responsible for the lack of enhancement. Fibrous collagenous tissues in the lesions occasionally caused enhancement on CT; however, this event usually occurred in the delayed phase of contrast-enhanced CT. Therefore, if the scan period is inappropriate, CT would not indicate such enhancement. Because the peripheral area of the mass showed inflammation and vascular proliferation, the blood supply was more abundant than at the center of the mass, leading to enhancement in the peripheral area. Calcium salt deposition was observed in organized thrombi and necrotic areas, leading to punctuate calcification on CT.

On MR imaging, there is typical appearance of an antrochoanal polyp, hypointense on T1-weighted and hyperintense on T2weighted images. On gadolinium-enhanced MR images, the sinus part

shows little or no peripheral enhancement; however, the nasochoanal part, corresponding to the angiomatous polyp, shows a strong enhancement. An angiomatous polyp mimics a hypervascular mass lesion on enhanced MR studies.[9]

The angiomatous nasal polyps can be confused with juvenile nasopharyngeal angiofibromas.[13] The angiomatous nasal polyps are located primarily in the nasal fossa and not in the nasopharynx, it does not extend into the pterygopalatine fossa, the sphenoid sinus and intracranially. On angiography, angiomatous nasal polyps have only a few demonstrable feeding vessels compared with the rich vascular supply of angiofibromas. On CT, angiomatous nasal polyps do not enhance as well as the angiofibromas do, vascular flow voids, as seen in angiofibroma are usually not seen on MRI imaging, in case of polyps.

Vascular tumors are the most common type of nonepithelial tumor of the nasal cavity and nasopharynx [2], and the prominent vascular component in angiomatous nasal polyps can pose problems with regard to differential diagnosis. The angiomatous nasal polyps should be mainly differentiated from capillary or cavernous hemangiomas. They are usually found in the anterior nasal septum, the turbinates and the vestibule.[6] Most nasal hemangiomas arise from the nasal septum or vestibule and are of the capillary type. Only a few arise from the lateral wall of the nose, and these are usually cavernous. In the paranasal sinuses, hemangiomas are even rarer [15]. On a CT scan, sinonasal angiomas show greater enhancement on contrast-CT than angiomatous nasal polyps.

As clinical symptoms are nonspecific, the diagnosis of an inverted papilloma can be difficult to establish and is sometimes missed. Excluding inverted papilloma as a diagnosis not possible based on clinical or radiological grounds alone [5]. On CT, an inverted papilloma is homogeneous; it has a density like that of soft tissue and may contain calcium. The mass shows heterogeneous enhancement after injection of contrast material.

The degree of necrosis and calcification on CT of angiomatous nasal polyps raised suspicion regarding fungal infection. The information obtained from the CT scan and MRI, together with the clinical findings, may provide the best guidelines for clinical management. Chronic inflammatory disease is often associated with mucosal thickening and sclerosis of the bone, particularly within the sinuses[17].The presence of diffuse increased attenuation within the paranasal sinuses and nasal cavity should be considered as chronic allergic hypersensitivity aspergillosis [17]. However, bony destruction associated with fungal infection is rare, and angiomatous nasal polyps are negative on fungal staining.

In a relatively uncommon presentation, angiomatous nasal polyps may cause extensive bone erosion and remodelling or epistaxis. The presence of any of the latter features can raise the clinical suspicion of a malignant process [2]. In general, angiomatous nasal polyps have a long disease history. In our patient as well as in the previous reports, angiomatous nasal polyps showed heterogeneous density, filling the nasal cavity and/or maxillary sinus. The mass showed minimal enhancement on the edge of the lesions. The edge of angiomatous nasal polyps on CT is clear and does not invade the peripheral fat layer. However, malignant tumors occur in the elderly and are associated with a relatively short disease history [17]. The bony erosion of malignant tumors is destructive and the edges are indistinct; moreover, the peripheral fat layer is invaded and disappears [18].

CONCLUSION

Angiomatous antrochoanal polyps are rare variants that require special attention both at diagnosis and during surgery. Angiomatous nasal polyp can grow rapidly and exhibit an aggressive clinical behavior that can simulate malignancy preoperatively[1]. The clinical and radiological characteristics of these lesions have considerable potential for confusion with neoplastic processes.The clinical, radiological and pathological data are usually complementary to

each other and provide a definite diagnosis together. Detailed surgical planning, including preventive measures, is important to control intense perioperative bleeding.

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