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Case Report

Angiomatous Antrochoanal Polyp Mimicking a Malignant Sinonasal Tumor: A Case Report and Literature Review

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ABSTRACT

Angiomatous antrochoanal polyps are rare benign sinonasal lesions that may mimic malignant tumors because of their aggressive clinical presentation and radiological appearance. We report the case of a 34-year-old patient presenting with recurrent unilateral epistaxis, progressive nasal obstruction and ipsilateral epiphora evolving over three months. Endoscopic examination revealed a left middle meatal mass associated with inflammatory mucosa. Computed tomography and magnetic resonance imaging demonstrated a hypervascular expansile lesion centered within the left maxillary sinus with extension into the ipsilateral nasal cavity, enlargement of the middle meatus and focal bony lysis, initially suggesting a malignant sinonasal process. Surgical treatment was performed using an endoscopic endonasal approach including septoplasty, inferior turbinectomy, anterior ethmoidectomy and extended medial maxillectomy with lacrimal sac resection. Complete en bloc excision was achieved. Histopathological examination confirmed the diagnosis of angiomatous antrochoanal polyp without evidence of malignancy. This case highlights the diagnostic challenge posed by this uncommon entity and emphasizes the importance of clinicoradiological and histopathological correlation to avoid unnecessarily aggressive management.

Keywords: Angiomatous antrochoanal polyp; Sinonasal tumor; Epistaxis; Endoscopic sinus surgery; Maxillary sinus; Case report

Introduction

Antrochoanal polyps are benign solitary lesions arising from the mucosa of the maxillary sinus and extending into the choana through the maxillary ostium. The angiomatous variant represents an uncommon histopathological subtype characterized by marked vascular proliferation, stromal edema, thrombosis, vascular ectasia and hemorrhagic infarction[1,2]. Despite its benign nature, this entity may demonstrate locally aggressive radiological features such as sinus expansion, bone remodeling and focal bony erosion, thereby mimicking malignant sinonasal tumors[3].

Because of its rarity and nonspecific clinical presentation, angiomatous antrochoanal polyp remains a diagnostic challenge for both radiologists and otorhinolaryngologists. Differential diagnoses include sinonasal carcinoma, inverted papilloma, juvenile nasopharyngeal angiofibroma, hemangiopericytoma, lymphoma and organized hematoma[4-6]. Recent studies have

highlighted the importance of radiological and histopathological correlation to establish the diagnosis and avoid unnecessarily aggressive treatment[11,12].

We report a case of angiomatous antrochoanal polyp presenting as a hypervascular maxillary sinus lesion with pseudo-malignant radiological features.

Case Presentation

A 34-year-old patient with no significant past medical history presented with a three-month history of intermittent spontaneous left-sided epistaxis associated with progressive ipsilateral nasal obstruction and epiphora. No visual disturbances, facial hypoesthesia, headache or constitutional symptoms were reported.

Anterior rhinoscopy revealed a right septal deviation associated with a left-sided tissue mass arising from the middle meatus and covered by inflammatory mucosa. The remainder of the otorhinolaryngological examination was unremarkable.

Computed tomography (CT) imaging demonstrated a hypervascular expansile lesion occupying the entire left maxillary sinus and extending into the ipsilateral nasal cavity through the middle meatus **(Figure 1)**. The lesion caused widening of the middle meatus associated with thinning and focal lysis of the sinus walls **(Figure 2)**. These radiological findings strongly suggested an aggressive sinonasal neoplasm. Similar pseudo-malignant radiological features have previously been described in angiomatous antrochoanal polyps[3,5].

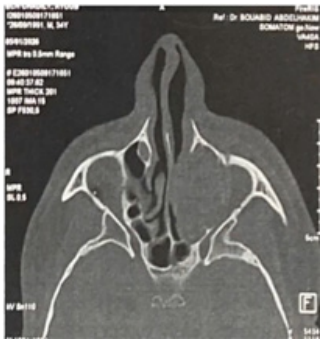

Figure 1: Axial CT scan showing a hypervascular expansile lesion occupying the left maxillary sinus with extension into the ipsilateral nasal cavity

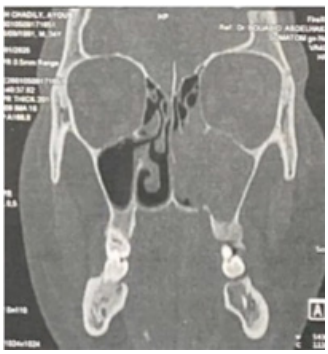

Figure 2: Sagittal CT scan demonstrating enlargement of the middle meatus associated with thinning and focal lysis of the maxillary sinus walls

Magnetic resonance imaging (MRI) confirmed the presence of a heterogeneous hypervascular lesion centered within the left maxillary sinus with extension into the nasal cavity without evidence of orbital or intracranial invasion **(Figure 3)**. MRI findings were consistent with previously reported imaging characteristics of angiomatous polyps, including heterogeneous enhancement and haemorrhagic components[6,11].

Figure 3: Axial MRI showing a heterogeneous hypervascular lesion centered within the left maxillary sinus.

Given the suspicious radiological appearance, surgical treatment was undertaken using an endoscopic endonasal approach under general anaesthesia. The procedure was initiated with septoplasty in order to improve surgical exposure. Inferior turbinectomy and anterior ethmoidectomy were subsequently performed to optimize access and visualization of the lesion.

Because of the extensive involvement of the maxillary sinus and the close relationship of the lesion with the medial maxillary wall, an extended medial maxillectomy was then performed. This approach enabled complete en bloc resection of the tumour with adequate control of the surrounding anatomical structures. Intraoperatively, the lesion appeared highly vascularized, friable and haemorrhagic, further reinforcing the suspicion of a malignant process. The surgical cavity following complete tumour excision and extended medial maxillectomy is illustrated in **(Figure 4)**.

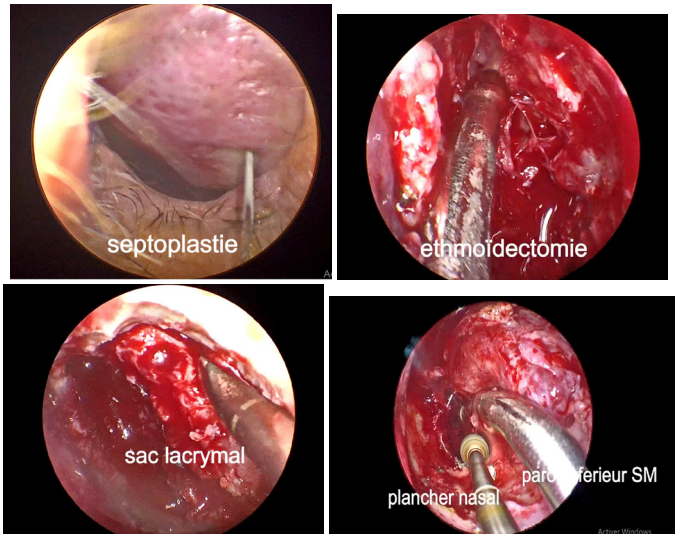

Figure 4: Intraoperative endoscopic view illustrating the different surgical steps of tumor resection.

Histopathological examination demonstrated an angiomatous antrochoanal polyp characterized by edematous inflammatory stroma containing dilated vascular channels, haemorrhagic changes, fibrin deposition and inflammatory infiltrates without cellular atypia or malignant proliferation. These findings were consistent with previously published histopathological descriptions[1,2].

The postoperative course was uneventful, with complete resolution of symptoms and no evidence of recurrence during follow-up.

Discussion

Angiomatous antrochoanal polyps are rare benign sinonasal lesions first described as a distinct histopathological entity because of their marked vascular and hemorrhagic changes[1]. Their pathogenesis remains incompletely understood. The most widely accepted hypothesis suggests vascular compromise caused by compression of the polyp pedicle at the maxillary ostium, leading to venous stasis, infarction, neovascularization and secondary angiomatous transformation[2,4].

Clinically, unilateral nasal obstruction and recurrent epistaxis are the most common presenting symptoms[3,5]. Depending on lesion size and extension, patients may additionally present with rhinorrhea, facial pain, epiphora or orbital symptoms. In the present case, recurrent unilateral epistaxis associated with a hypervascular sinonasal mass initially raised strong suspicion for malignancy.

Radiologically, angiomatous antrochoanal polyps frequently demonstrate heterogeneous enhancement, expansile sinus remodelling, thinning of bony walls and focal erosion[3,6]. These aggressive radiological features may mimic sinonasal squamous cell carcinoma, angiofibroma, hemangiopericytoma or inverted papilloma[5,8]. However, unlike malignant tumours, bone destruction in angiomatous polyps is generally related to chronic pressure remodelling rather than infiltrative growth[3].

CT imaging remains useful for evaluating bone remodelling and lesion extension, whereas MRI better characterizes soft tissue vascularity and haemorrhagic components[6]. Recent reports have emphasized the value of MRI in distinguishing angiomatous polyps from invasive neoplasms by demonstrating the absence of orbital or intracranial infiltration[11,12].

Histopathological examination remains the gold standard for diagnosis. Characteristic microscopic findings include edematous inflammatory stroma, vascular ectasia, thrombosis, hemorrhage, fibrosis and absence of cytological atypia[1,2]. Differential diagnosis includes organized hematoma and vascular neoplasms.

Complete endoscopic surgical excision remains the treatment of choice[4,13]. Adequate exposure of the maxillary sinus and complete removal of the lesion attachment are essential to minimize recurrence risk[14]. In the present case, the extensive lesion required extended medial maxillectomy associated with lacrimal sac resection to ensure complete excision.

Recent studies have confirmed the excellent prognosis of angiomatous antrochoanal polyps after complete surgical removal, with low recurrence rates reported in the literature[13-15].

Conclusion

Angiomatous antrochoanal polyp is a rare benign sinonasal lesion that may closely mimic a malignant tumor clinically, radiologically and intraoperatively. Awareness of this uncommon entity is essential to avoid diagnostic confusion and unnecessarily aggressive treatment strategies. Histopathological examination remains indispensable for definitive diagnosis, while complete endoscopic surgical excision provides excellent functional and oncological outcomes.

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