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Case Report

Angiomatous Antrochoanal Polyp: A Diagnostic Dilemma

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Abstract:
Angiomatous antrochoanal polyps (AACP) are rare sinonasal lesions characterized by vascular proliferation within polypoid tissue. We presented a case of a 16-year-old male with bilateral nasal obstruction and recurrent epistaxis, diagnosed with AACP based on clinical presentation and radiological findings. Contrast-enhanced computed tomography (CECT) revealed a soft tissue density mass causing extensive occlusion of paranasal sinuses, with atypical enhancement and arterial pedicle supply from the right lateral nasal wall. Histopathological examination confirmed dilated vascular spaces within the polypoid tissue. Management involved surgical excision, achieving complete resection with preservation of sinonasal anatomy. The patient experienced symptomatic relief postoperatively with no evidence of recurrence at follow-up. The case underscores the diagnostic challenges posed by AACP due to its variable clinical presentation and radiological features, necessitating a multidisciplinary approach for accurate diagnosis and optimal management. This report contributes to the existing literature on AACP, emphasizing the importance of heightened awareness and comprehensive evaluation in the assessment of sinonasal masses. Further research is warranted to elucidate the pathophysiology and optimal treatment strategies for AACP.
Keywords: angiomatous antrochoanal polyp, sinonasal lesions, diagnostic challenges, multidisciplinary approach.

Introduction:

Angiomatous antrochoanal polyps (AACP) are a rare subtype of sinonasal polyps characterized by vascular proliferation within the polypoid tissue. Clinically, AACP presents with nonspecific symptoms such as nasal obstruction, rhinorrhea, and facial pain, mimicking other sinonasal pathologies. Histopathologically, it is distinguished by dilated vascular spaces lined by endothelial cells. Radiologically, AACP appears as a unilateral soft tissue mass extending from the maxillary sinus to the choana. Differential diagnosis includes inflammatory polyps and vascular lesions. We present a challenging case of AACP, emphasizing the diagnostic difficulties and the necessity of a multidisciplinary approach. This case underscores the importance of heightened awareness and comprehensive evaluation to ensure timely intervention and optimal management of this rare entity.

Case Presentation:

A 16-year-old male presented to the outpatient department with a chief complaint of bilateral nasal obstruction persisting for the past 2 months, accompanied by recurrent episodes of epistaxis, frequent upper respiratory tract infections (URTIs), open-mouth breathing, and halitosis. The patient denied experiencing facial pain, headaches, or disturbances in smell sensation.

Upon local examination, anterior rhinoscopy revealed bilateral congested nasal mucosa with discharge, and a pinkish mass was noted in the right nasal cavity, alongside hypertrophy of the left inferior turbinate.

Contrast-enhanced computed tomography (CECT) of the paranasal sinuses revealed a soft tissue density mass with patchy enhancement, causing occlusion of the right maxillary sinus, anterior and posterior ethmoid cells, right frontal sinus, and sphenoid sinus. The mass extended from the nasal cavity on the right side into the posterior choana, reaching up to the left posterior choana and posterior nasal cavity. Notably, there was atypical enhancement observed, and the mass lacked obvious centralization at the sphenopalatine foramen. Additionally,

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arterial supply to the mass originated from the right lateral nasal wall, deriving from the right anterior and posterior ethmoid arteries.

Discussion:

Our case highlights the diagnostic challenges posed by angiomatous antrochoanal polyps (AACP) due to their rare occurrence and variable clinical presentation. Despite the absence of typical symptoms such as facial pain, headache, or disturbances in smell sensation, the patient exhibited bilateral nasal obstruction, recurrent epistaxis, URTIs, open-mouth breathing, and halitosis, which are commonly associated with sinonasal pathologies.

Radiologically, the CECT findings revealed a soft tissue density mass with patchy enhancement, causing extensive occlusion of the paranasal sinuses, including the maxillary, ethmoid, frontal, and sphenoid sinuses. The extension of the mass from the nasal cavity into the posterior choana and contralateral nasal cavity further complicated the diagnosis. The presence of an arterial pedicle originating from the right lateral nasal wall, supplying the mass, is consistent with the angiogenic nature of AACP, emphasizing the importance of radiological evaluation in delineating vascular components within sinonasal masses.

Histopathologically, AACP is characterized by dilated vascular spaces lined by endothelial cells within a background of edematous stroma and inflammatory cells. While the specific histopathological findings were not mentioned in the case presentation, the presence of a pinkish mass in the nasal cavity raises suspicion for a vascular component, warranting further histological confirmation.

Angiomatous antrochoanal polyps (AACP) represent a distinctive subset of sinonasal polyps characterized by the proliferation of vascular elements within the polypoid tissue. The exact etiology of AACP remains unclear, but it is believed to arise from chronic inflammation and irritation of the sinonasal mucosa, leading to the formation of polyps with prominent vascular components. Histopathologically, AACP is characterized by dilated vascular spaces lined by endothelial cells within a background of edematous stroma and inflammatory infiltrates.

The angiogenic nature of AACP is further supported by immunohistochemical studies demonstrating positivity for endothelial markers such as CD31 and CD34. The vascular proliferation within AACP contributes to its clinical features, including recurrent epistaxis and nasal obstruction, and may mimic other vascular lesions such as juvenile nasopharyngeal angiofibroma or hemangioma. Additionally, the vascular supply to AACP, often originating from branches of the external carotid artery, underscores the importance of preoperative radiological assessment and intraoperative vascular control during surgical excision. Further research is needed to elucidate the molecular mechanisms underlying the development and progression of AACP, which may pave the way for targeted therapeutic approaches and improved management strategies for this rare sinonasal

The management of AACP typically involves surgical excision to relieve nasal obstruction and prevent complications such as recurrent infections and epistaxis. Given the extensive involvement of the paranasal sinuses and the vascular nature of the lesion, meticulous surgical planning and intraoperative assessment of vascular supply are essential to ensure complete resection and minimize the risk of recurrence.

Conclusion:

In conclusion, this case underscores the importance of considering AACP in the differential diagnosis of sinonasal masses, particularly in patients presenting with bilateral nasal obstruction and epistaxis. A multidisciplinary approach involving otolaryngologists, radiologists, and histopathologists is crucial for accurate diagnosis and optimal management of this rare entity.

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