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CASE REPORT

Middle turbinate angiofibroma: an unusual location for juvenile angiofibroma☆

Angiofibroma de concha média: uma localização rara de angiofibroma juvenil

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Introduction

Angiofibromas are the most frequently encountered histologically benign but potentially locally destructive vascular tumors that generally originate from the posterior lateral wall of the nasopharynx. These neoplasms are typically found in adolescent males and rarely seen after 25 years of age.[1] Angiofibromas located in extranasopharyngeal sites are uncommon, and sporadically reported in the literature. In this article, we present a very rare case, the fourth case in the literature, of an angiofibroma arising from the middle turbinate in a 13 year-old male who presented with recurrent epistaxis and nasal blockage.[2–4] The clinical presentation, endoscopic examination, radiological findings, histopathologic evaluation and management of this pathology are discussed.

Case report

A 13 year-old nonsmoker male patient came to our clinic with recurrent epistaxis and nasal blockage complaints. He had experienced these symptoms for 3 months. He had no history of notable nasal trauma, nasal surgery, allergy, infection or systemic disease. He had been treated several times with different local and systemic medications without success. On endoscopic examination (Fig. 1), a polypoid mass arising from the anteroinferior part of the left middle turbinate was detected. The routine non contrast-enhanced paranasal computed tomography (CT) scan (Fig. 2A–C) showed a soft tissue opacity that filled the anterior part of the left nasal cavity. There was no sign of sinus invasion or bony destruction. Based on the location and size of the tumor, our judgment was that the mass could be completely removed endoscopically to perform histopathological evaluation for definitive diagnosis without any other preoperative investigation such as Magnetic Resonance Imaging (MRI), angiography or embolization.

The polypoid mass was completely removed with endoscopic subtotal middle turbinectomy under general

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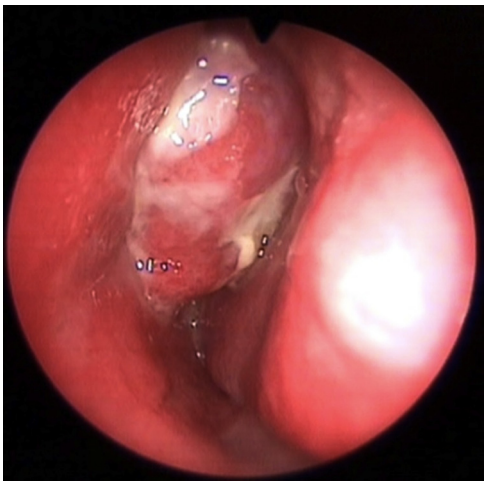

Figure 1 Reddish-gray-colored polypoid mass in the left nasal passage.

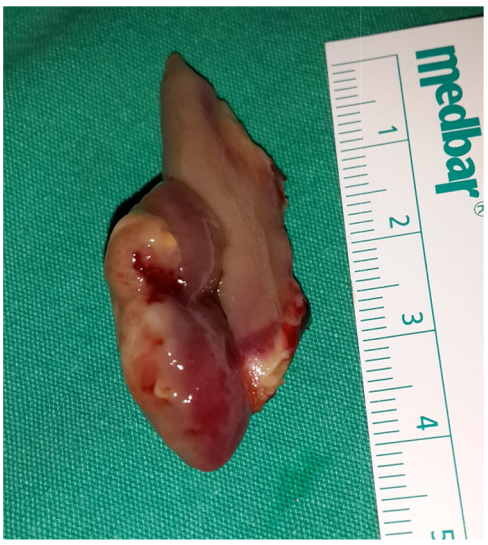

Figure 3 Excised mass; lobular, red-grayish, about 30 mm long and 10 mm diameter.

anesthesia. The tumor was lobular, red-grayish, about 30 mm in length, and 10 mm in diameter (Fig. 3). There were no serious bleeding intra or post-operatively. After removal, the material underwent histopathological examination. After 24 h, the patient was discharged without any complication. Oral antibiotic was prescribed for seven days.

The tissue was fixed in 10% formaldehyde, routinely processed and fixed in paraffin for microscopic examination. Consecutive sections, with 4 μm in thickness, were stained with hematoxylin and eosin. The exam revealed metaplastic squamous epithelium with respiratory epithelium remnants on the tumor surface. Under the epithelium, many irregular vascular structures ranging from capillaries and sinusoids to large bleeding areas, wrinkled with one layer of flat endothelial cells lying in a fibrous stroma that composed of spindle cells were found. The tumor consisted of numerous blood vessels of various sizes and shapes surrounded by a fibrous stroma. Immunohistochemical methods using CD34 antibody staining, showed vascular structures more clearly (Fig. 4A–C). From these features, histopathological analysis confirmed the diagnosis of angiofibroma. The endoscopic control evaluation of one-month post-surgery showed a completely recovered left nasal cavity, with no sign of recurrence.

Discussion

Many theories have been described to clarify the etiopathogenesis of angiofibromas, including developmental, hormonal, and genetic but none of them have been generally accepted. According to Tillaux, these tumors may originate in the tissue of the anterior part of the atlas at the inferior region of the sphenoid bone.[5] Brunner called this tissue ''fascia basalis'' as he found no cartilage in it.[6] Consequently, an angiofibroma of the middle turbinate is extremely unusual, and our case is the fourth reported case in the PubMed and Google Search literature.[2–4]

Primary extranasopharyngeal angiofibromas have rarely been reported. Unlike the classic juvenile angiofibromas, extranasopharyngeal angiofibromas are more frequently seen in an older age group and more commonly in females. Our case in a 13 year old male is very unusual according to the medical literature knowledge. Primary extranasopharyngeal angiofibromas most commonly

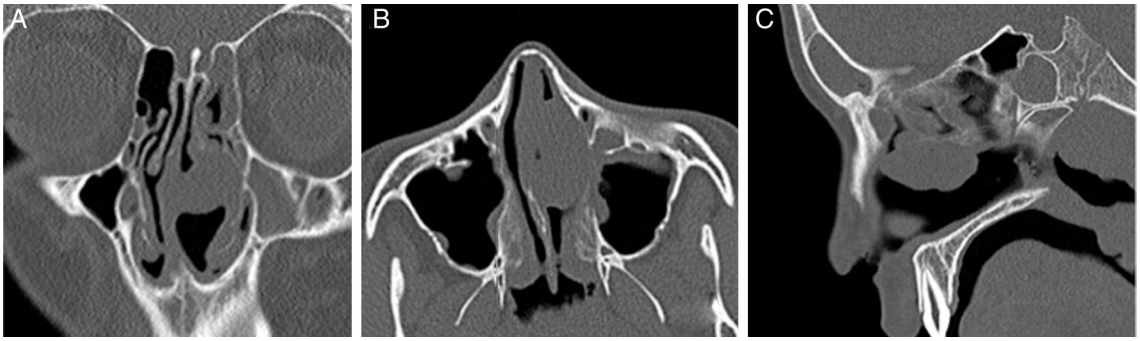

Figure 2 Intensely enhanced homogenous mass lesion originating from the left middle turbinate on coronal (A), axial (B), and sagittal (C) computed tomography images.