ANGIOFIBROMA OF THE NASAL SEPTUM

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Abstract

Angiofibromas originate predominantly in the nasopharynx. Extranasopharyngeal sites such as the paranasal sinuses and nasal cavity are less frequent. Angiofibroma of the nasal septum is extremely rare and the site of origin is either anterior, at the bony cartilaginous junction or posterior. Clinically, patients present with recurrent epistaxis and nasal obstruction secondary to a fleshy or polypoidal nasal mass. Computerized tomography of the nasal cavity and bilateral carotid angiography are useful in the pre-operative work-up. The main stay of treatment is surgical resection.

A rare case of nasal septal angiofibroma is hereby presented.

Key Words: Angiofibroma, Nose, Septum, Epistaxis, obstruction.

Introduction

Angiofibromas originate predominantly in the nasopharynx and are confined to males in their adolescence or early childhood. They carry a significant morbidity in view of their prominent vascularity and propensity for local growth. Pathologically they are labeled benign, yet their aggressive destructive behavior carries a potential risk. The lesion is composed of fibrous tissue interspersed to a variable degree with endothelium lined vascular spaces. The most common site of origin is the posterolateral wall of the nasopharynx, with an increasing number of cases occurring extra nasopharyngeal[1]. Angiofibromas of the nasal cavity are extremely rare, more so of the nasal septum. A case report of angiofibroma of the nasal septum is presented with a review of the clinical presentation, diagnosis and modes of treatment.

Case Report

A 19 years old male presented to the Emergency room at the American University of Beirut Medical Center with history of right nasal obstruction and recurrent epistaxis of few weeks duration. Patient denied any history of nasal discharge, postnasal drip, facial numbness or pain. Anterior rhinoscopy revealed a right ulcerative nasal mass, well circumscribed filling the right nasal cavity (figure 1). An axial and coronal Computerized Tomography of the nose and paranasal sinuses with contrast showed a 2x1.2 cm enhancing soft tissue density in the anterior aspect of the right nasal cavity adherent to the nasal mucosa with no evidence of extension into the paranasal

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sinuses or remodeling of the adjacent bone (figure 2). The findings were highly suggestive of an angiomatous polyp. Patient was taken to the operating room where he underwent resection of this nasal mass through a lateral rhinotomy incision. After retracting the lateral nasal wall, the tumor was exposed and found to be pedunculated with the base originating from the nasal septum close to the bony cartilaginous junction. It was totally excised deep to the perichondrium and the defect was closed using local mucoperichondrial flaps. Histopathologic examination revealed multiple vascular spaces lined by endothelium and separated by fibrous stroma. The pathologic diagnosis was consistent with angiofibroma.

Fig. 1
A polypoidal ulcerative nasal mass well circumscribed filling the right nasal cavity

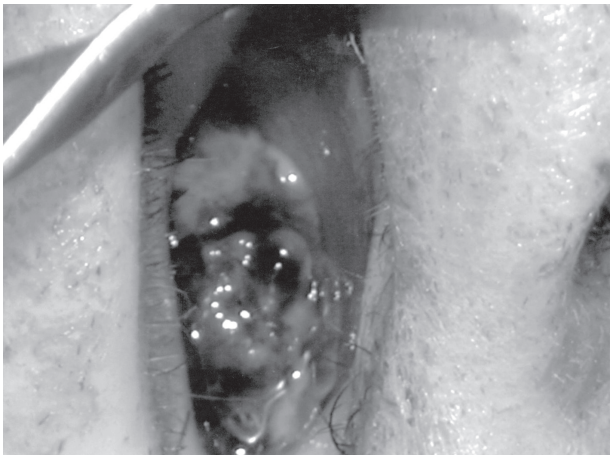


Fig. 2
A 2 x 1, 2 cm enhancing soft tissue density in the anterior aspect of the right nasal cavity with no evidence of erosion or remodeling of the adjacent bony structure.

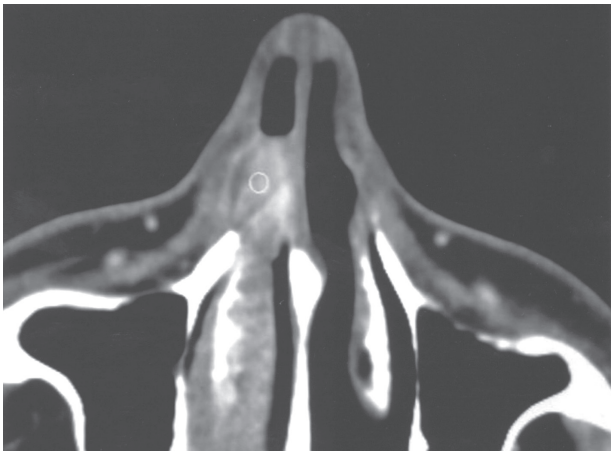
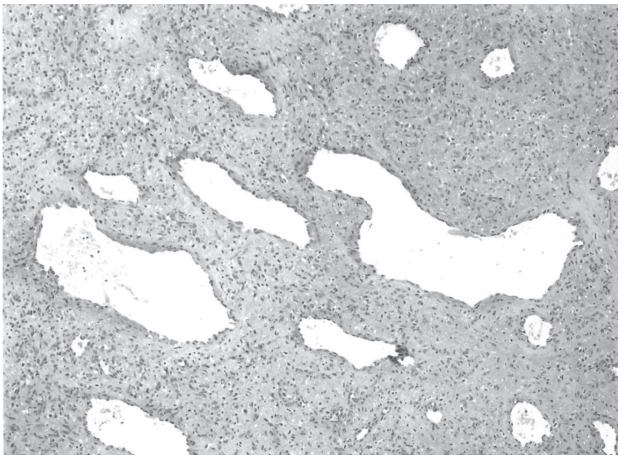


Fig. 3
Multiple vascular spaces lined by endothelium and separated by fibrous stroma (H & E x20)



Discussion

The histogenesis of angiofibroma varies from being developmental to genetic. According to Tillaux, it is believed that the tumor originates from the fibrocartilaginous barrier of the basisphenoid or basiocciput, also termed fascia basalis by Brunner. This fascia extends over the roof of the nasopharynx to the vomer, the palatal bone, the posterior ethmoid and the medial pterygoid process[2]. The absence of this fascia in other sites of the nasal cavity such as the anterior septum and inferior turbinate has suggested another origin for these tumors mainly the presence of an ectopic nidus of turbinate like vascular tissue[3]. The most common extra nasopharyngeal site for an angiofibroma is the maxillary sinus followed by the ethmoid sinuses. Angiofibromas have also been described in the cheek, infratemporal fossae, pterygomaxillary fissure, conjunctiva, esophagus, larynx and trachea. They occur more commonly in females and appear at a later age.

Angiofibromas of the nasal cavity are extremely rare and have been reported to occur in the septum, inferior and middle turbinates, nasal vault and roof. The nasal septum is an extremely rare site with only five cases being reported in the english literature[4,5]. There has been no major sex or age predilection. The male to female ratio is 2/1 with the age ranging from 8 to 50 years. The site of origin is either the anterior one third of the nasal septum, the bony cartilaginous junction, or the ethmoidal perpundicular plate. The clinical

presentation may be earlier than nasopharyngeal tumors because of the limited space of the nasal vault. Patients usually complain of recurrent epistaxis and nasal obstruction. Anterior rhinoscopy and/or nasal endoscopy reveal a polypoidal or fleshy mass with a smooth or ulcerative surface filling the anterior nasal cavity. Computerized tomography helps you delineate tumor extension whereas bilateral carotid angiography is more relied upon to determine the nature of the tumor and its blood supply[1,5]. The mainstay of treatment of extranasopharyngeal angiofibroma is surgical resection. The surgical approach is determined by the size, location and blood supply of the tumor. Different innovations have been described for complete excision ranging from endoscopic approach to alotomy and lateral rhinotomy for better exposure. The rarity of septal angiofibromas and the lack of a staging system make it hard to set a standard guideline for therapeutic approaches. Recurrence is extremely rare (Table 1).

Table 1

Age	8-50 years
Sex	M/F 2/1
Symptoms	Epistaxis, Nasal obstruction
Nasal Findings	A fleshy or polypoidal mass with smooth / ulcerative surface
Site of Origin	Anterior cartilaginous septum Junction of bony cartilaginous septum Ethmoidal perpendicular plate
Radiologic Findings	CT scan: delineate extent of tumor Bilateral carotid angiopathy: Define the arterial supply
Treatment	Surgical excision: using either of the following approaches Endoscopy Alotomy Lateral Rhinotomy

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