Leiomyoma of the lateral nasal wall

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Abstract
Leiomyomas are benign neoplasms that are thought to originate from the vascular smooth muscle. They have a propensity to arise from the gastrointestinal tract, female genital tract (uterus) and subcutaneous tissue. The nasal cavity is an uncommon site for a leiomyoma. A brief review of the literature and histological variations are described. We report a case of a rare leiomyoma of the nasal cavity arising from the lateral nasal wall; the pathological and the clinical characteristics of this tumour are discussed.
Keywords: leiomyoma, neoplasms, nasal cavity, lateral nasal wall.

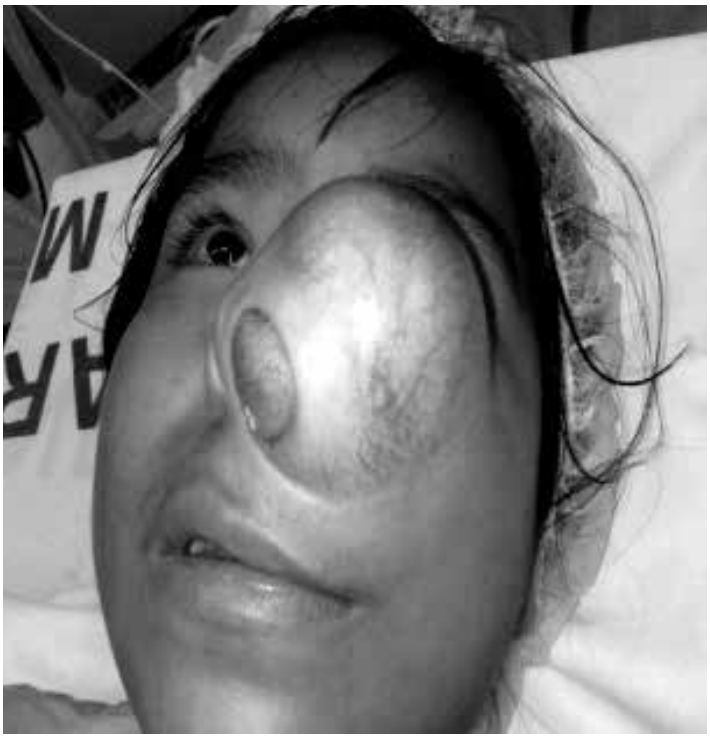
Introduction

Vascular leiomyomas are benign tumours, which usually present as a small, painless mass. The auricle, nose, lip, and neck are the more common sites of occurrence. The nasal cavity is a rare site for this tumour. Simple surgical excision yields high cure rates. The exact origin of these tumours is not known, but most agree that the aetiology is probably from smooth muscle cells in the walls of blood vessels.

Case report

An 11 year old girl presented with an 11 month history, of a mass on the left nasolabial groove, an incisional biopsy was done in December 2010. Since May 2011, the mass increased in size occupying the entire left midface, accompanied by nasal obstruction, homolateral rhinorrea, and epistaxis and evident deformity of the face. Direct rhinoscopy examination displayed a polypoid mass occupying the entire left nasal cavity with evident deviation of the columella and deformity of the malar region.

The patient presented with a large mass occupying more than 50% of the left side of her midface extending from the nasal dorsum to the malar region and inferior orbital rim Resilient to touch, non-painful, with macroscopic increase of vascularity.



Mass occupying more than 50% left midface

Computerized tomography (CT) of the paranasal sinus was performed. It showed a well circumscribed mass originating from the left lateral nasal wall, with slight erosion of the

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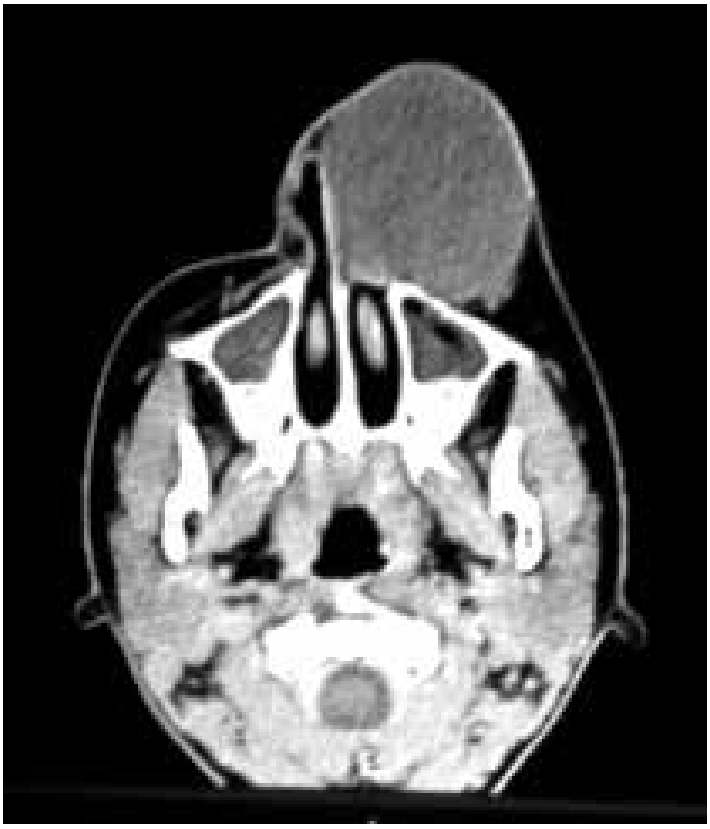
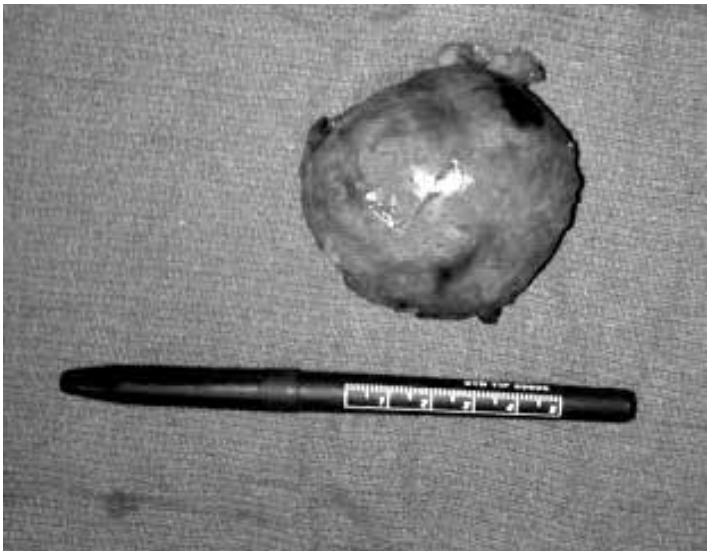
anterior maxillary wall, measuring 5x7 cm and causing non-invasive, ethmoidal and maxillary sinusitis.
The lesion was completely excised.
Grossly, the tumour appeared as a firm, well-delimited, white polypoid mass measuring 7cm at its largest axis. It was covered by smooth mucosa. Histopathological study showed it was a leiomyoma.



Computerized image of mass



Macroscopic view of mass

Discussion

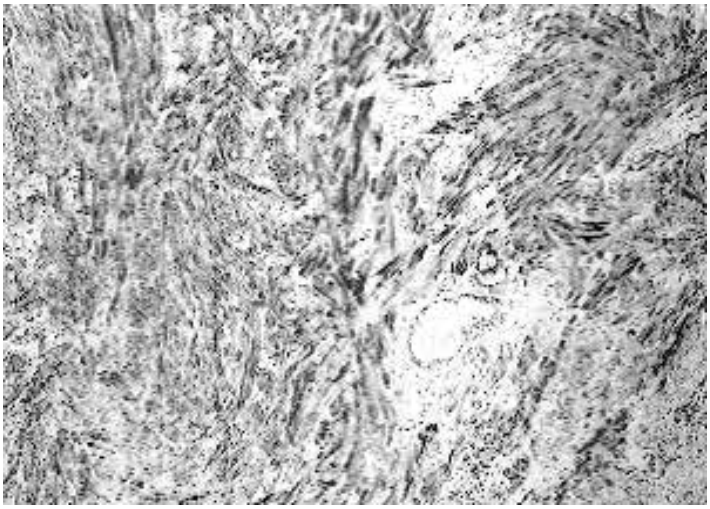
Leiomyomas of the sinonasal tract are extremely rare due to the paucity of smooth muscle cells at this site. The first case was described by Naesaka et al. in 1966 (1). To date, fewer than 30 benign leiomyogenic tumours have been described in the English literature (2, 3).

The origin of nasal leiomyomas is still controversial. They may arise from the smooth wall of blood vessels or from multipotential mesenchymal cells (3, 4) and the most frequent sites are the uterus (95%), skin (3%) and gastrointestinal tract (1.5%), Less than 1% has been associated with the head and neck region. In addition, leiomyomas in the nasal cavity are even less commonly encountered. The most common site of origin for a nasal leiomyoma is from the turbinates. Other sites reported are the septum, sinuses, nasal vestibule and floor of the nose, the auricle, lip, and neck.
They usually occur in adults with a peak incidence between the fourth and the sixth decade (2, 6). Only one case of an atypical nasal leiomyoma (leiomyoblastoma) was described in a 5-year-old girl. In recent years, sex steroid receptors (progesterone-receptor positive and oestrogen-receptor negative on immunohistochemical analysis) have been identified in leiomyomas, suggesting that the growth of these tumours may be hormone-dependent (10). This may be the reason for the higher incidence in females, with a male-to-female ratio of 1:3 6.
Frequently, sinonasal leiomyoma presents as a painless polypoid or nodular mass with nasal obstruction and recurrent epistaxis (2, 6).
Gross examination usually shows a firm, grayish to white, ovoid mass with size ranging from 0.3 to 2.2 cm. Hyalinized or gelatinous areas may be seen (2, 3).
Microscopically, leiomyomas have been divided into vascular and non-vascular; the first type being the most frequent (3, 7). Myxoid, hyalinized and adipocytic changes or epitheloid appearance are possible, though less frequent than in uterine tumours (2). Immunohistochemistry studies show strong positivity of tumour cells for smooth

muscle actin and desmin.

Histologically, the mass is covered by a regular respiratory epithelium. It was formed by bundles of spindle-shaped cells with ill-defined eosinophilic cytoplasm and cigar-shaped monomorphic nuclei. Upon careful examination, no mitoses were found. The stroma is partially hyalinized. The tumor cells show diffuse, strong immunoreactivity for smooth muscle actin and caldesmon.

The diagnosis of benignity is the same as for uterine leiomyoma (3, 9). The pathologic differential diagnosis must be considered with juvenile angiofibroma that can simulate a vascular leiomyoma. When myxoid changes are present, the main differential diagnosis includes sarcomatoid carcinoma and myxoid leiomyosarcoma.



Tumour cells display strong immunoreactivity to caldesmon

The use of immunohistochemistry and the absence of high mitotic activity and/or cytonuclear pleomorphism are often helpful. With regards to treatment, complete surgical excision is the preferred method. No recurrence of the tumour has been reported after adequate surgery. In cases of large tumours, embolisation of the feeding vessels prior to surgical resection has been described.

Conclusion

It can be concluded that leiomyoma of head and neck region are rare tumours and are benign by nature. They should be differentiated from neurofibroma, other spindle cell tumours, myofibroma, granular cell tumour, and malignant leiomyosarcoma.

Prognosis of nasal leiomyoma is excellent after complete excision.

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