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Leiomyoma of the nose

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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. We report a 24-year-old woman with a rare nasal leiomyoma. A brief review of the literature and histological variations are described.

Keywords: leiomyoma, nasal cavity, nasal turbinate

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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

A 24-year-old woman presented to the ENT outpatient department with recurrent episodes of spontaneous right nasal bleeding for two months, which used to stop on its own. On endoscopical examination, a mass measuring 1 cm × 2 cm was seen arising from the middle turbinate of the right nasal cavity (Fig. 1). Endoscopical resection of the nasal mass was performed. Histopathological study showed it to be a leiomyoma (Fig. 2). The postoperative period was uneventful with no recurrence.

DISCUSSION

The rarity of smooth muscle tumours in the nasal cavity and paranasal sinuses is probably due to the paucity of smooth muscle fibres in this location. In the nasal cavity, three hypotheses have been given for the origin of smooth muscle tumours: from aberrant undifferentiated mesenchyme, from smooth muscle elements in the wall of blood vessels, or from both sources.[1] Most authors support the idea that the vascular smooth muscle is the origin of the tumour.

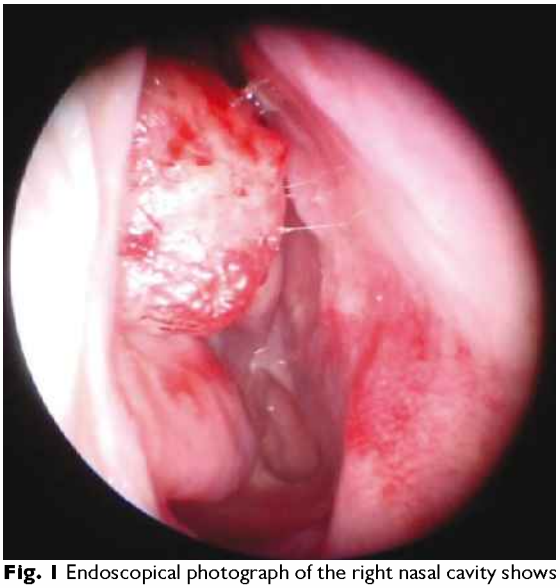

Fig. 1 Endoscopical photograph of the right nasal cavity shows a tumour arising from the middle turbinate.

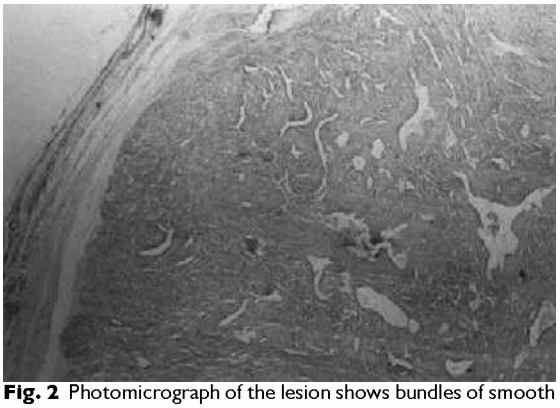

Fig. 2 Photomicrograph of the lesion shows bundles of smooth muscle cells with collagen fibres and angiomatous elements (Haematoxylin & eosin, ×10).

This is in agreement with findings from Barr et al (1990) and Llorente et al (1996), as other types of muscle are absent in the septum.[2] The most common site for origin of a nasal leiomyoma is from the turbinates. Other sites that have been reported are the septum, sinuses, nasal vestibule and floor of the nose.[3-7]

Benign smooth muscle neoplasms have been classified into:[8]

- leiomyoma (solid leiomyoma)
- angiomyoma (vascular leiomyoma)
- epitheloid leiomyoma (leiomyoblastoma)

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The division between angiomyoma and leiomyoma is based on the degree of vascularity, with the latter lesion being less vascular. Histological differentiation must be made from neurofibroma, angiofibroma, epithelioid leiomyoma, haemangiopericyioma, schwannoma, myofibroma, granular cell tumour and leiomyosarcoma. In cases of histological controversy, immunohistochemical markers such as muscle specific actin, desmin, myoglobin, S-100 protein, vimentin can be used.[8] This case was diagnosed as leiomyoma because of its histology and the strongly-positive myogenic marker (alpha smooth muscle actin). Most of the tumour cells showed spindle-shaped cells in a fascicular pattern, hence leiomyoma was probable, rather than epithelioid leiomyoma or hemangiopericytoma. Smooth muscle cells had blunt cigar-shaped uniform nuclei with no demonstrable atypia or mitotic activity. Sawada reported angioleiomyoma of the vestibule as an extremely rare tumour.[9]

In recent years, sex steroid receptors (progesterone-receptor positive and oestrogen-receptor negative on immunohistochemical analysis) have been identified in leiomyomas, which suggests that the growth of these tumours may be hormone-dependent.[10] This may be the reason for the higher incidence in females (female:male ratio is 3.75:1). The current treatment is surgical resection, and there are only a few reports of recurrence in the literature.[11] In cases of large tumours, embolisation of the feeding vessels prior to surgical resection has been described. It can be concluded that angiomyomas 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. Immunohistochemistry is precise and reliable for definitive diagnosis for an angiomyoma. Prognosis of nasal leiomyoma is excellent after complete excision.

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