

## Leiomyoma of the paranasal sinuses

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### Abstract

The paranasal sinuses are a rare site for tumours of myogenic origin. There has been only one previously reported case in the English literature. We present a case of a leiomyoma filling the anterior ethmoid sinus and middle meatus which was excised via a Patterson's external ethmoidectomy.

**Key words:** Paranasal sinus neoplasms; Leiomyoma

### Introduction

Leiomyomas are benign tumours of myogenic origin that may occur wherever smooth muscle is present. They are commonly found in the alimentary tract and the uterus and less frequently in the skin and subcutaneous tissue. They are rarely found in the nasal cavity, making up between one and two per cent of all non-epithelial tumours of the nasal cavity (Fu and Perzin, 1975). There has only been one previously reported case in the English literature of a leiomyoma arising in the paranasal sinuses (Schwartzman and Schwartzman, 1973).

### Case report

A 55-year-old Caucasian female presented to Moorfields Eye Hospital with a ten-year history of right epiphora. The patient had also noticed a painless swelling at the medial canthus of the right eye which had enlarged slowly over the previous year. There was an absence of rhinological symptoms. Examination

revealed a lump arising from the medial bony wall of the orbit and a polypoidal mass filling the right middle meatus. A CT scan (Figure 1) demonstrated a mass filling the right ethmoid sinus and extending into the nasal cavity and encroaching on the orbit. She was referred to the Professorial Unit at The Royal National,



FIG. 1

Coronal CT scan showing a mass filling the right anterior ethmoid sinus and encroaching the orbit.

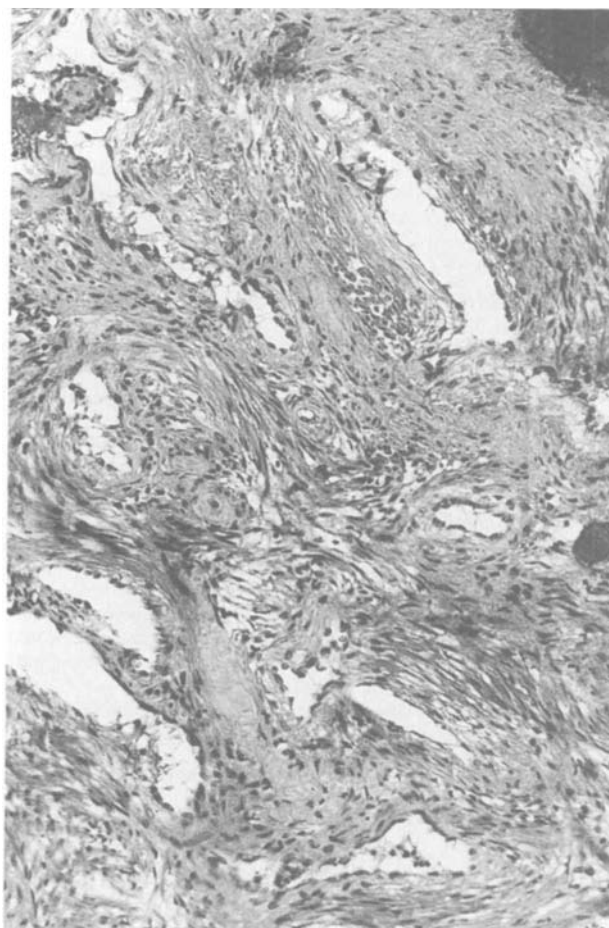


FIG. 2

Vascular smooth muscle blends with that in the intervening stroma.

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Throat, Nose and Ear Hospital. The middle meatal mass was biopsied under endoscopic control and a diagnosis of leiomyoma made.

She subsequently underwent a right Patterson's external ethmoidectomy to excise the mass which, anteriorly, had begun to breach the orbital periosteum though posteriorly the lamina papyracea was intact. It was necessary to divide the nasolacrimal duct to remove the mass with a small area of adjacent periosteum. A nasolacrimal stent was inserted to avoid stenosis and was removed after three months. She has been followed-up for one year with no sign of recurrence.

### Pathological findings

Grossly, the specimen consisted of a multilobular mass of pale tan, firm tissue which measured 2.0 × 1.9 × 1.0 cm. Sectioning the specimen revealed a spongy cut surface, with altered blood within some of the spaces. Blocks were taken, processed, embedded in paraffin and sections cut to 5 µm. These were stained with haematoxylin and eosin. The histological appearances were of an unencapsulated smooth muscle tumour with a lobular architecture (Figure 2). Within each lobule were numerous blood vessels, of various calibre and wall thickness. Some were thick-walled with a prominent coat of smooth muscle, whereas others lacked a muscle coat and had a gaping lumen. Between the vessels there were bundles of smooth muscle. In places these appeared to merge with the outer layers of the vascular smooth muscle. The tumour was covered by respiratory epithelium.

### Discussion

The nasal cavity and paranasal sinuses are an unusual site for leiomyomas. This has been ascribed to the paucity of smooth muscle in the area, which is only noticeable in the tunica media of blood vessels and in piloerector muscles. There have been several cases of nasal cavity leiomyomas reported (Maesaka *et al.*, 1966; Wolfiz and Schmaman, 1973; Fu and Perzin, 1975; McCaffrey *et al.*, 1978; Lijovetsky *et al.*, 1985; Hanna *et al.*, 1988; Chiantelli *et al.*, 1989). These have arisen in the nasal vestibule and inferior turbinate though two cases were associated with unspecified nasal polyps (Fu and Perzin, 1975). There has been only one previously reported case of leiomyoma involving the paranasal sinuses (Schwartzman and Schwartzman, 1973). The patient had presented with nasal obstruction and facial pain. An extensive tumour filling the maxillary, ethmoid and sphenoid sinuses was excised via a transantral ethmo-sphenoidectomy.

Leiomyomas of the nose and paranasal sinuses are most commonly of the vascular type. Vascular leiomyomas are solitary

lesions found most commonly in the subcutis. Generally they are commoner in women but, curiously, those arising in the oral cavity have a predilection for males (Gutmann *et al.*, 1974). Subcutaneous vascular leiomyomas are typically painful. Occasional cases in the nasal cavity, particularly those at the vestibule, have also been painful.

The larger size of paranasal sinus leiomyomas may be due to their late presentation once there has been orbital or nasal involvement. As a consequence a more major procedure is required to adequately excise the lesion as compared to the more localized procedures for the generally smaller nasal cavity leiomyomas. Their comparative rarity relative to nasal cavity leiomyomas may be due to the absence of piloerector musculature in the paranasal sinuses.

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