

Leiomyoma of the nasal septum

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Abstract

Leiomyoma of nasal cavity is an extremely rare and unusual benign mass that uncommonly arises from the nasal septum. These are vascular or nonvascular masses of myogenic origin. We present a rare case of leiomyoma arising from the nasal septum and discuss its management using KTP 532 laser.

Key words: KTP-532 Laser, Leiomyoma, nasal septum

Introduction

Leiomyomas are benign tumours of myogenic origin. They constitute 1% of all benign tumors and are rarely found in nose and paranasal sinuses.^[1] A review of literature revealed only 26 case reports of leiomyoma of nasal cavity of which only five cases have been reported to be arising from nasal septum.

Case Report

A 31-year-old male patient, presented to ENT out patient department with a history of right side constant nasal obstruction and intermittent, spontaneous, unprovoked epistaxis from right nasal cavity since three years. He did not have any other complaints. ENT examination revealed a mass in the right nasal cavity which was pinkish globular with a smooth surface. Diagnostic nasal endoscopy was done which also showed a pink globular mass with prominent blood vessels over the surface attached to right side of septum; lying between the anterior end of middle turbinate and inferior turbinate [Figure 1]. Nasal endoscopy on left side showed that nasopharynx was free of the tumor. CT scan of the nose and paranasal sinuses showed a 3.2 x 2.5 cm rounded, homogenous mass limited to the right nasal cavity [Figure 2]. In view of pinkish vascular mass presenting with epistaxis; a provisional diagnosis of angiofibroma was made and angiography was done. There was no tumor blush in the angiogram. We planned to go ahead with an excision biopsy using KTP laser. Hence, KTP-532 laser assisted transnasal

endoscopic resection of the mass was done under general anesthesia utilizing 9 watts and 525 joules. Intraoperatively the mass was confirmed to be attached to the septum and there was insignificant bleeding when the mass was excised from its attachment.

Histo-pathological examination revealed an ulcerated respiratory epithelium overlying an unencapsulated cellular spindle cell tumor composed of long-sweeping and intersecting fascicles of spindle shaped cells with elongated ovoid nuclei with rounded blunt end and few pleomorphic nuclei, some with intranuclear cytoplasmic inclusions, surrounded by collagenous stroma containing few thin walled vascular channels. Periphery showed few entrapped seromucinous glands suggestive of a leiomyoma [Figure 3]. On one and a half year follow-up there was no recurrence.

Discussion

Leiomyomas are benign tumors of myogenic origin that occur commonly in the uterus, frequently in the walls of the alimentary tract and rarely in the skin. They are very rarely found in the head and neck region. The first report of an intranasal leiomyoma was done by Maesaka *et al.* in 1966 concerning an angioleiomyoma.^[2,3] Three hypotheses have been proposed to explain the origin of smooth muscle tumors in the nasal cavity.^[4] Firstly, they originate in the aberrant undifferentiated mesenchyme, secondly the presence of smooth muscle elements in the walls of the blood vessels and finally they may arise from nasal vestibule as erector pilae muscle and sweat



Figure 1: Diagnostic nasal endoscopy picture showing a pink globular mass with prominent blood vessels over the surface attached to right side of septum

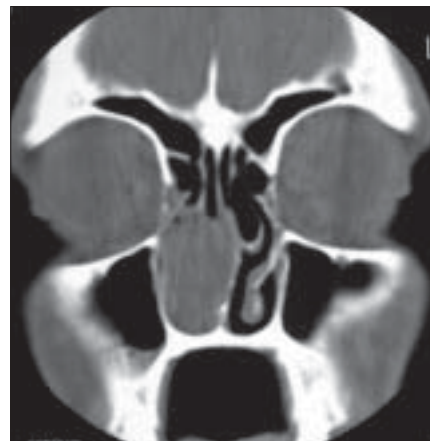


Figure 2: CT scan coronal cuts showing a 3.2 x 2.5 cm rounded, homogenous mass limited to the right nasal cavity

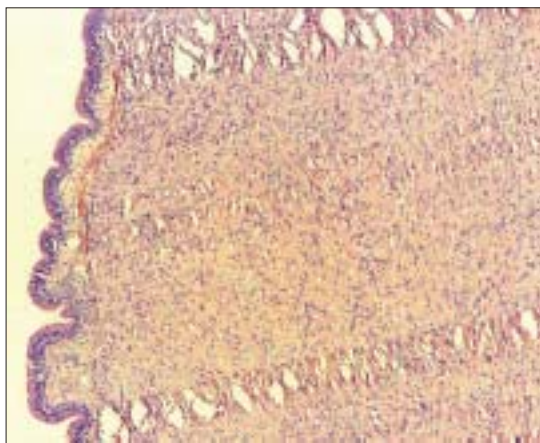


Figure 3: Histopathological picture of leiomyoma (H&E, x10)

gland.^[5,6] Microscopically leiomyomas are classified into two types - vascular and nonvascular.^[7] On histology the vascular type, which is less common, exhibits double-walled vessels, indicating that the mass originated in the smooth muscles of the veins. Progressive development of smooth muscle tumors from hemangioma to vascular leiomyoma has been postulated.^[5] These vascular leiomyoma finally develop to solid leiomyoma with gradual reduction in vascularity.^[7] The leiomyoma that develop in the nasal cavity are of vascular origin hence a digital subtraction angiography may be justified in anticipation of intraoperative bleeding. The cause of vascular leiomyoma is still uncertain, although trauma, steroid therapy and hormonal imbalance have been implicated in the past.^[2]

As per the histologic typing of soft tissue tumors, WHO classified them into three groups namely; Leiomyoma, Angiomyoma (vascular leiomyoma) and Epithelioid leiomyoma (bizarre leiomyoma and leiomyoblastoma). Morimoto classified these tumors

into three histologic types in 1973; solid or capillary, cavernous and venous. Tumors of solid type are composed of smooth muscle bundles which surround the vascular channels and are closely compacted and intersect with one another. Vascular channels are large in number but small in size and slit like. Tumors of cavernous type are composed of dilated vascular channels with smaller amounts of smooth muscle. The muscular walls of these vessels are difficult to distinguish from inter-vascular smooth muscle bundles.^[2] Tumors of the venous type have vascular channels of venous type with thick muscular walls and smooth muscle bundle are not so compact. Therefore vascular walls can be easily distinguished from inter-vascular smooth muscle bundles.

Histo-pathological report in our study points that the tumor was of solid type with no mitotic figures. Malignant variants and recurrences have been rarely reported. It appears that the absence of mitosis is the most useful histologic indicator of benign lesions. Size, infiltration, bone erosion in significant sites and mitotic index are valuable diagnostic aids for these tumors.^[8]

The histo-pathologic differential diagnosis for these lesions includes hemangioma, nasal angiofibroma, fibromyoma, leiomyoblastoma, hemangiopericytoma, angiosarcoma, angiomyolipoma and vascular leiomyosarcoma.

The review of literature reveals a female preponderance, mostly middle-aged and involving right side of nasal cavity. These tumors grow slowly and present with epistaxis, pain and nasal obstruction. They can also present with headache or acute sinusitis. A change in airflow may result in nasal crusting, nasal mucosa desiccation and epistaxis. Local pressure may result in bony erosion local tumor extension.

Leiomyomas exhibit no characteristic radiologic findings but CT or MRI is helpful in determining the extent of tumor invasion and plan treatment. The most satisfactory treatment for these lesions is complete excision which can be accomplished because base can be removed along with a surrounding rim of normal mucosa. The size and location of tumor dictates the type of surgical approach. KTP532 laser delivered by hand held device using fibreoptic cable was useful in our case as it precisely excised and coagulated the pedicle of the mass attached to the nasal septum. The intraoperative bleeding was negligible and no nasal pack was required. KTP Laser is a very efficient tool for coagulation as it is absorbed by hemoglobin hence an excellent device in situations where excessive bleeding is anticipated. KTP 532 laser assisted transnasal endoscopic approach provides complete removal of disease and definitive treatment in small tumors confined to the nasal cavity.

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Source of Support: Nil, **Conflict of Interest:** None declared.