

Solitary Fibrous Tumor in the Maxillary Sinus Treated By Caldwell Luc Surgery

Dnyaneshwar Ahire^{2*}, Smita Nagle¹, Jagade MV³, Saurbh Agarwal², Shreyas Joshi², Rohini Kashide², Shubhangi Kedar² and Sunita bage²

¹Associate Professor (MS ENT), SIR JJ Hospital and Government Medical College, Mumbai, India

²Resident (MS, ENT), SIR JJ Hospital and Government Medical College, Mumbai, India

³Professor and HOD (MS ENT), SIR JJ Hospital and Government Medical College, Mumbai, India

Abstract

Solitary fibrous tumor (SFT) is an uncommon neoplasm that usually arises from the pleura. Also known as benign fibrous mesothelioma or submesothelial fibroma, it is one of the different types of mesothelial tumor. SFT was first described in 1931 as a primary spindle cell tumor of the pleura. There are some cases reported in the world extrapleurally. Here we describe an SFT that arose from the left maxillary sinus and extended to the nasal cavity. The tumor was removed by Caldwell approach for en bloc resection. The majority of these tumors originate in the pleura, but SFTs can also be derived from other serosal membranes. Due to its mesenchymal origin there are extrapleural sites of origin of SFT such as the meninges, orbit, peritoneum, pelvis, adrenal glands, liver, and urogenital system. SFTs of the nasal cavity and paranasal sinuses are extremely rare, with only 24 cases reported in the English literature to date. The main treatment for SFT is complete surgical excision. Herein, we describe an SFT that arose from the left maxillary sinus and extended to the nasal cavity that was successfully treated by Caldwell Luc surgery.

Keywords: Solitary fibrous tumor; Maxillary sinus

Case Report

The patient was a 45 years old man who came with chief complaints of gradual onset Progressive left nasal obstruction since one year. Patient had history of septoplasty operation done in same hospital 2 years back. Patient had history of recurrent common cold but no history of epistaxis. His Medical history was insignificant. On anterior rhinoscopic examination, well-circumscribed mass was seen filling the left nasal cavity which probably aroused from the middle meatus [1-7]. We had done diagnostic nasal endoscopy in which the reddish mass seen in a left nostril almost touching originating from the left maxillary sinus (Figure 1). The right nasal cavity and nasopharynx appeared normal. The all routine investigation was within normal limits. CT scans of this patient showed homogeneously moderately enhancing mass filling the left nasal cavity and arising from left maxillary sinus (Figure 2). The probable etiology was angiomatous or neoplastic mass. We had taken endoscopic biopsy from the mass. At the time of biopsy there was significant bleeding but we would control without much efforts. But the biopsy was inconclusive. Inflammatory polyp was found. We posted this patient for endoscopic removal of mass but it was impossible. So Caldwell-Luc approach was used for complete removal of the tumor. During surgery we found that the anterior wall of left maxillary sinus was 'papery thin'. The medial wall of maxillary sinus was eroded and only mucosa was present. We separate the tumor from all its margins and removed completely. The tumor size

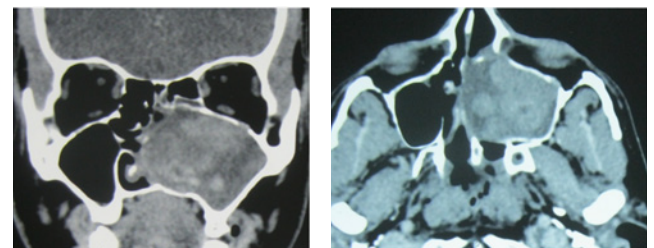


Figure 2: Diagnostic images of the tumor. Enhanced axial and horizontal CT shows a homogeneously moderately enhancing mass that fills the anterior part of the left nasal cavity and the maxillary sinus.

was 3 cm × 3cm × 2 cm, and the tumor weight was about 30 g (Figure 3). A histopathological examination showed soft tissue fibroma. Histopathologically, the lesion consisted of spindle-shaped cells with varying amounts of collagen between there. The spindle cells showed a patternless arrangement within the collagenous matrix. Numerous thick-walled vessels and dilated vascular spaces were present (Figure 4). Immunohistochemically, the tumor cells stained positively for CD34, with no staining for S-100 protein, Bcl-2, or c-kit, thus helping us establish a diagnosis of soft tissue fibroma. Operative procedure was uneventful and well tolerated by patient and no recurrence was observed at the 6 month follow-up.

Discussion

SFT is a well-recognized entity occurring in the serosal surfaces

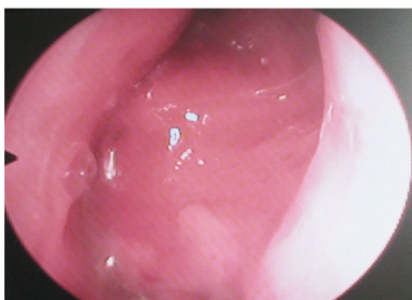


Figure 1: Endoscopic views of the left nostril preoperative view.

***Corresponding author:** Dr. Dnyaneshwar Bharat Ahire, Resident Doctor in ENT, SIR JJ Hospital and Government Medical College, Mumbai, India, E-mail: dnyaneshwar@hotmail.com

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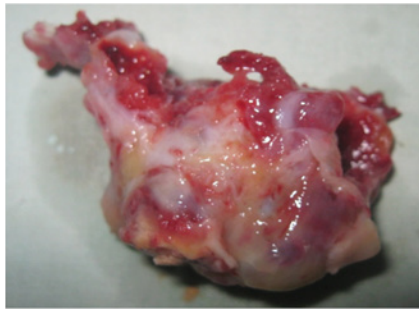


Figure 3: Excised mass from the Para nasal sinus.

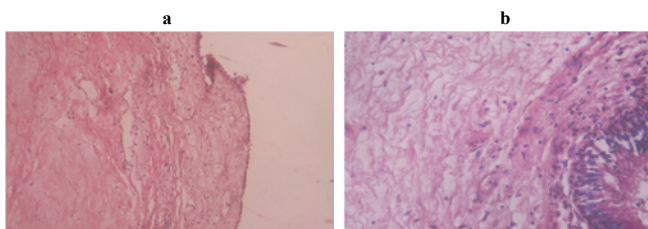


Figure 4: a) Low power view. b) High power view.
The spindle cells are arranged in a patternless fashion in the collagenous matrix
(b) Numerous thick-walled vessels and dilated vascular spaces are present.

and most commonly at the level of the pleura [1,2]. The mesenchymal rather than mesothelial origin of the tumors is further supported by the growth of this tumor in numerous extraserosal sites. Interestingly, extrathoracic SFTs appear to have histological, immunohistochemical, and ultrastructural features similar to those described for tumors arising from the pleura-based intrathoracic regions [8]. In a review of the literature, Alobid et al. described 21 cases of a primary SFT arising in the nasal cavity and paranasal sinuses. Most patients in this series sought treatment for complaints of a unilateral mass, nasal obstruction, rhinorrhea, epistaxis, and/or exophthalmos [7]. SFTs are well-circumscribed, tan, rubbery masses often tethered by a pedicle. Microscopically, these neoplasms are described as “patternless” with a haphazard arrangement of bland-appearing spindle cells, hypercellular and hypocellular sclerotic foci, stromal hyalinization, and a prominent branching vasculature [8]. Histologically, SFTs are formed by plump spindle cells arranged in a patternless fashion in a collagenous background. Typically, there are hyper and hypocellular areas and prominent vascularity within the lesion that result in a hemangiopericytoma-like pattern. Immunohistochemical assessment permits differentiation of SFT from other fibrous or spindle-cell neoplasms of the upper respiratory tract such as hemangiopericytoma, angiofibroma, fibrous histiocytoma, schwannoma, leiomyoma, fibromatosis, and fibrosarcoma [9].

In conclusion, we present a rare case of benign SFT of the maxillary sinus removed using Caldwell-Luc approach. SFTs are uncommon tumors of the nasal cavity and Para nasal sinuses which can be malignant with the capability to invade the skull base. Its behavior is generally favorable, and timely treatment is surgical resection. Patient follow-up is important for the rare possibility of local recurrence.

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