

# Ossifying Fibroma in the Sinonasal Tract: A Rare Case Report

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## ABSTRACT

Ossifying fibroma involving the sinonasal tract is an extremely rare occurrence. We are reporting a case of ossifying fibroma in the left maxillary sinus in a 19-year-old female who presented with a mass in the left cheek and nasal obstruction. On examination, the swelling in the left cheek seemed to originate from the left maxilla and was smooth and bony hard. Patient underwent detailed radiological and image guided cytopathological investigations. Depending on the results of these tests complete surgical excision of the mass was done. Histopathological evaluation of the excised mass revealed it to be an Ossifying Fibroma.

**Keywords:** Ossifying fibroma, Paranasal sinus

## CASE REPORT

A 19-year-old female presented with a progressively enlarging mass in the left cheek for last 6 years and ipsilateral nasal obstruction for last 2 years.

On examination, there was a swelling involving the left cheek and lateral aspect of nose, which was smooth on palpation and bony hard in consistency and seemed to originate from the left maxilla. Anterior rhinoscopy revealed marked narrowing of the left nasal cavity with gross deviation of the septum to the right side. Posterior rhinoscopy showed irregular narrowing of the nasopharynx. X-ray PNS showed dense opacity in left maxillary region. The mass invaded the maxillary sinus. It was well-defined and showed radiolucent and radio-opaque features.

CT-Scan OF PNS showed a large mass with internal bony & soft tissue densities that was expanding the left maxillary antrum [Table/Fig-1].

FNAC of the left maxillary swelling under USG guidance revealed scattered adipocytes, occasional fibroblasts like cells, osteoblasts and RBCs in the background-suggesting benign fibro-osseous lesion.

Grossly, it showed a tan to white mass measuring approximately 6X5 cm in size with firm consistency and cuts with a gritty sensation [Table/Fig-2].

Histopathological examination of the lesion revealed randomly distributed mature (lamellar) bone spicules rimmed by osteoblasts admixed with a fibrous stroma. The fibrous stroma was densely cellular. Mitotic figures were rare [Table/Fig-3,4].

**Result:** Final diagnosis was Ossifying Fibroma of the maxillary sinus.

## DISCUSSION

Ossifying fibroma is an uncommon fibro-osseous tumour of benign nature with no tendency towards malignant change. It was first described by Menzel in 1872. He considered it as a form of Osteoma [1] but the term of "Ossifying Fibroma" was subsequently coined by Montgomery in 1927 [2]. The aetiology of ossifying fibroma is unknown but odontogenic, developmental and traumatic origins have been suggested [2,3].

### Epidemiology:

**Incidence:** Ossifying fibroma is one of the benign fibro-osseous lesions. Although, they are common in the mandible, involvement of the sinonasal tract is extremely rare and only 48 cases were

reported in the literature from 1971 to 2011 (based on a search in Pubmed) [1].

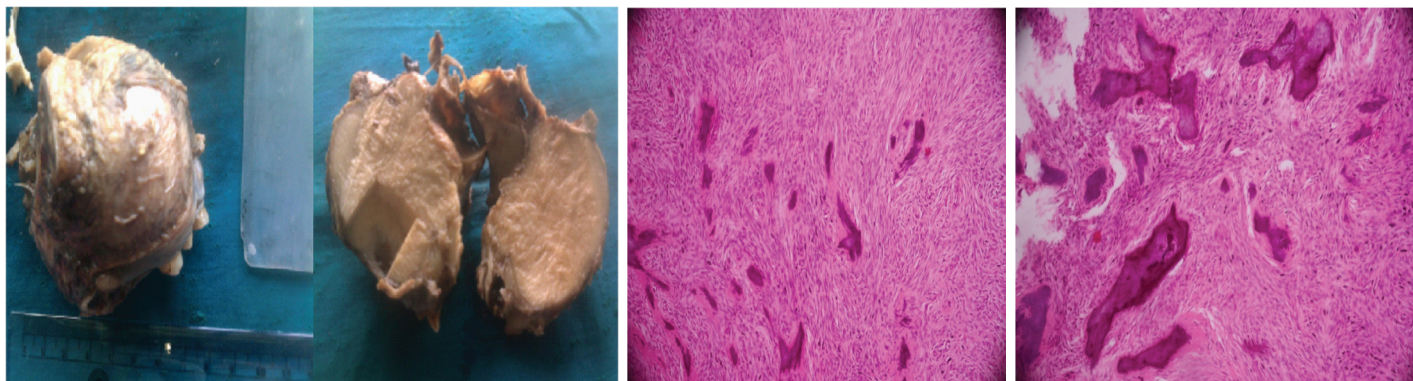
**Demographic Distribution:** In the present study, the patient was a 19-year-old female. Caylakli et al., and Baumann et al., reported a wide age range (3wk - 40yr) in their study [2,4]. Karkuzhali et al., reported that ossifying fibroma of the sinonasal tract occurs at slightly older age (3<sup>rd</sup> to 4<sup>th</sup> decade of life) [5]. Women are affected more often than men with a female to male ratio of 2:1 as observed by Ito et al., [6]. Similar findings were reported by Seema K.Modh et al in their study [7]. The age and sex incidence in the present study correlate well with the findings of above-mentioned authors.

## CLINICAL FEATURES

According to Lam et al., [8], the clinical presentation of this tumour is variable, depending upon the site and rate of growth. Sinonasal tract involvement is generally asymptomatic and often diagnosed incidentally following radiographic examination. Symptomatic masses manifest by displacement of teeth or as an expansile mass [9]. Our patient presented with slowly progressing mass lesion and nasal obstruction, which are consistent with the above-mentioned studies. Radiologic features of the lesion include the presence of a well-circumscribed or sharply demarcated lesion with smooth contours [9]. Grossly, ossifying fibromas appear tan/gray to white, gritty and firm, varying in size from 0.5 to 10 cm [9]. These features also correlates well with our case. Microscopic findings, ossifying fibromas are composed of randomly distributed mature (lamellar) bone spicules rimmed by osteoblasts admixed with a fibrous stroma. While the osseous component is generally described as



**[Table/Fig-1]:** CT scan: A large lobulated mass lesion with internal bony & soft tissue densities, is noted expanding the left maxillary antrum



**[Table/Fig-2]:** Tan to white mass measuring approximately 6X5 cm in size **[Table/Fig-3]:** Microscopy on Lower Magnification **[Table/Fig-4]:** Microscopy on Higher Magnification

mature, the central portion may be woven bone with lamellar bone at the periphery. Complete bone maturation is seldom seen. The fibrous stroma may be densely cellular [9]. According to Ito H et al., mitotic activity is absent [6]. Our histological findings match well with these authors.

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**FINANCIAL OR OTHER COMPETING INTERESTS:** None.

Date of Submission: **May 31, 2014**  
Date of Peer Review: **May 17, 2014**  
Date of Acceptance: **Jun 02, 2014**  
Date of Publishing: **Aug 20, 2014**