

## CASE REPORT

# Buccal Space Solitary Fibroma: A Rare Entity

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Received on: 22 December 2019; Accepted on: 05 September 2023; Published on: XX XXXX XX

### ABSTRACT

**Aim:** We endeavor to report a rare case of fibroma of buccal space along with a discussion of its characteristic magnetic resonance imaging (MRI) features.

**Background:** A solitary fibrous tumor is a spindle cell tumor which is a rare tumor of buccal space. It is typically a pleura-based tumor but has also been described in extrapleural and extraperitoneal sites.

**Case description:** A 32-year-old male presented with painless swelling on the right side of his cheek. Radiological investigations were done and MRI revealed an isointense lesion in the T1W image and intermediate signal intensity in the T2W images. Fine needle aspiration cytology (FNAC) showed benign fibroblastic pathology. The swelling was removed by sublabial approach and on histopathological examination it was reported to be fibroma.

**Conclusion:** Typical radiological features point to the diagnosis of fibroma which is confirmed by histopathology. These features should be kept in mind while dealing with a case of swelling of the buccal space.

**Clinical significance:** Fibroma of buccal space, although a rare tumor, should be kept in the differential diagnosis of the swelling of the buccal space.

**Keywords:** Buccal space, Solitary fibrous tumor, Spindle cell tumor.

*Otorhinolaryngology Clinics: An International Journal* (2023): 10.5005/jp-journals-10003-1494

### BACKGROUND

A solitary fibrous tumor is a spindle cell tumor that typically appears as a pleura-based mass.<sup>1</sup> Recent studies have shown that lesions with virtually indistinguishable features originate from extrapleural and extra peritoneal sites, including the head-neck region.<sup>2</sup> Solitary fibrous tumors are generally difficult to diagnose because of their broad range of morphological characteristics.<sup>3</sup> Radiological examination, especially magnetic resonance imaging (MRI) and histopathology help in making the diagnosis of fibroma. Only a few cases of solitary fibrous tumors of buccal space have been described in the English literature available.

We describe a case of solitary fibroma of buccal space while correlating its radiological findings with the pathological findings.

### CASE DESCRIPTION

A 32-year-old male patient, the farmer by profession, presented in the ENT out patient department with a chief complaint of painless swelling over the right cheek for 2 years which was insidious in onset, gradually increasing in the size from size of a pea to the current size. The patient also had complaints of bilateral nasal obstruction, post nasal drip, and bilateral nasal discharge. There was no history of trauma to the face/surgical intervention, toothache, weight loss, loss of appetite, fever or headache.

On inspection, there was a diffuse swelling visible over the right side of the face, margins were not well defined, and overlying skin was normal. On palpation, it was 3 × 4 cm in size and firm in consistency.

On nasal endoscopy, there was deviated nasal septum (DNS) to the left with a bony spur on the right side, and minimal polypoidal soft tissue was seen in the left middle meatus.

NCCT scan of the Nose and paranasal sinuses showed a well-defined isodense lesion with attenuation similar to that of surrounding muscles in the buccal space on the right side (Fig. 1).

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**How to cite this article:** Singh M, Bhagat S, Gill K, *et al.* Buccal Space Solitary Fibroma: A Rare Entity. *Int J Otorhinolaryngol Clin* 2023;xx(x):xx-xx.

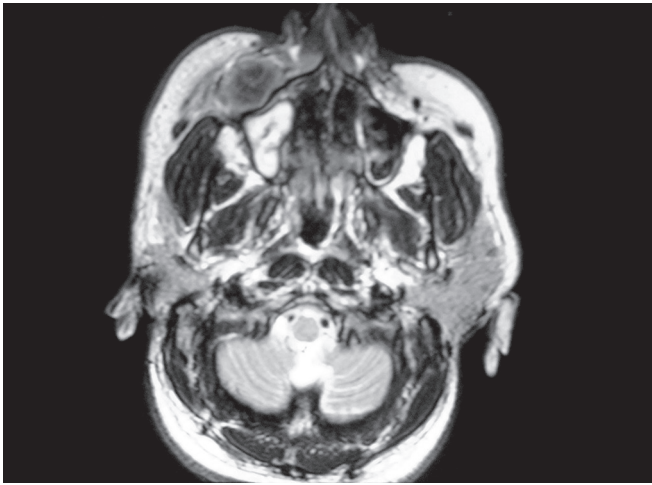
**Source of support:** Nil

**Conflict of interest:** None

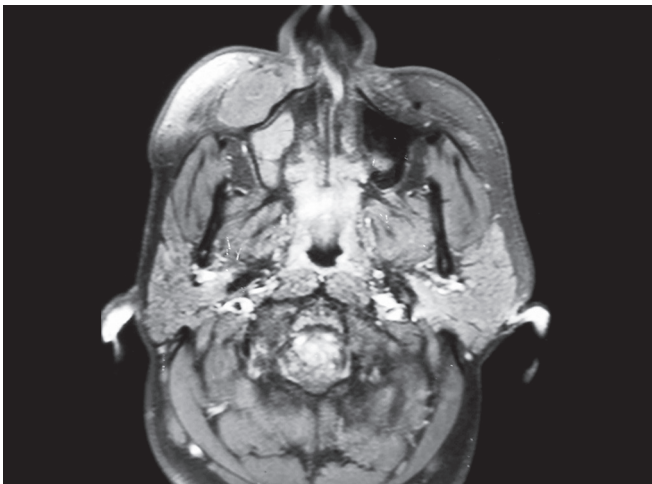
**Patient consent statement:** The author(s) have obtained written informed consent from the patient for publication of the case report details and related images.



Fig. 1: CT scan coronal section showing tumor



**Fig. 2:** T1W MRI image (axial view) showing isointense tumor



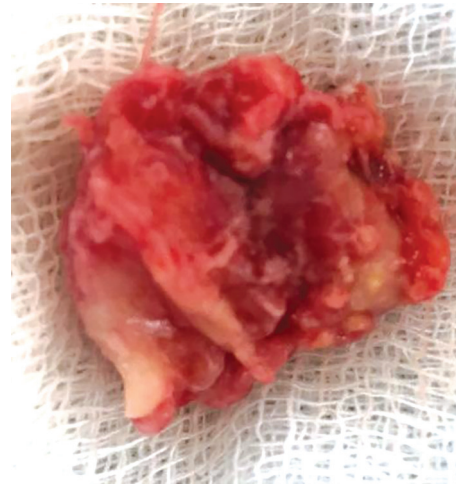
**Fig. 3:** T2W MRI image (axial view) showing intermediate intensity signal of the tumor

There was DNS towards the left side and soft tissue density materials present in bilateral maxillary, and sphenoid ethmoid sinuses along with areas of hypercalcification.

On MRI, a well-defined  $3.5 \times 2.2$  cm lesion which was isointense in T1W image and intermediate signal intensity in T2W images, and was seen involving subcutaneous fat and soft tissues in the right maxillary region. The mass was causing scalloping of the anterior wall of the right maxillary sinus, posteriorly extending along the external aspect of the maxillary sinus reaching the infratemporal region (Figs 2 and 3).

Fine needle aspiration cytology (FNAC) was done which showed features of benign fibroblastic pathology. Hence a provisional diagnosis of left-sided nasal polyposis with benign mass in the right buccal space was made.

Under general anesthesia, right-sided sublabial incision was made. Mass was found firmly adherent to the anterior wall of the maxilla, all fibrous attachments were excised and mass was removed in toto (Fig. 4) and sent for histopathological examination. Deviated nasal septum to the left side was corrected with septoplasty and the removal of the polyp was done on the left side.



**Fig. 4:** Specimen of tumor after removal

Histopathological examination showed a “patternless pattern” of interlacing bands of fibroblasts. Features were consistent with fibroma with extensive superimposed inflammation.

## DISCUSSION

Extrapleural solitary fibrous tumors are typically observed in adults between 20 and 80 years of age occurring equally amongst men and women.<sup>4</sup> In most of the cases patient presented with insidious onset painless mass like in this case. In this case patient was a 32-years-old male who presented with a swelling right side face.

The reported CT finding of solitary fibrous tumors are those of a well-defined soft tissue mass with heterogeneously strong enhancement and occasional calcification or necrosis.<sup>2,5,6</sup> The NCCT showed a well-defined isodense lesion with attenuation similar to that of surrounding muscles in the buccal space on the right side.

On MRI images, solitary fibrous tumors were mostly isointense to the muscle in the T1W image and hypointense in the T2W image and they show heterogenous or homogenous enhancement.<sup>2,5-7</sup> In our case, MR imaging showed a well-defined lobulated lesion which was isointense in the T1W image and intermediate signal intensity on T2W images involving fat and soft tissue in the right pre-maxillary space. The difference in MRI findings in the T2W image in our case could be explained by the superimposed inflammation as shown in histopathology.

The radiological differential diagnosis of neoplasm in the buccal space includes tumors of minor salivary gland origin, soft tissues sarcoma, and lymphadenopathy. Other less common tumors in the buccal space include lipoma, lymphoma, nerve sheath tumors, and hemangioma. On both enhanced CT and contrast-enhanced T1W images, most lesions enhance moderately or strongly, usually in a homogeneous fashion. Therefore, buccal space masses have a non-specific imaging appearance (although lymphadenopathy and some minor salivary gland tumors have rim enhancement), and hemangioma occasionally has characteristics of phleboliths and lipoma typical fat attenuation or signal intensity.<sup>8,9</sup> Therefore, to establish a histological diagnosis biopsy is mandatory.

The histogenesis of solitary fibrous tumors has been controversial but findings of recent immune-histochemical and ultrastructural analysis have strongly suggested an origin of submesothelial

mesenchymal fibroblast-like cells.<sup>4</sup> In our case HPE report shows a patternless pattern of interlacing bands of fibroblasts.

Most cases of solitary fibrous tumors, especially at the extraperitoneal sites are benign and cured with surgical excision.<sup>1</sup> Rare cases have shown an abrupt transition from a benign solitary fibrous tumor to a high-grade sarcoma.<sup>10</sup> Hence, excision and histopathological examination are the way to go.

## CONCLUSION

A rare case of fibroma of buccal space has been reported. Typical radiological features point to the diagnosis of fibroma which is confirmed by histopathology. These features should be kept in mind while dealing with a case of swelling of buccal space.

## Clinical Significance

Fibroma of the buccal space, although a rare tumor, should be kept in the differential diagnosis of the swellings of the buccal space.

## ACKNOWLEDGMENT

The author(s) declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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