

CASE REPORT

Intramuscular lipoma of the tongue: A rare site for a common tumour

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Abstract

Lipomas are mesenchymal tumors of the adipose tissue described in various sites including the oral cavity but rarely the tongue. Based on the clinical appearance, color, consistency, invasion, oral lipomas, may be simple, angiolipoma, intra/inter muscular (infiltrating), lipoblastoma, spindle cell, pleomorphic, myxoid and atypical lipomas but 80% of these are classical lipomas and may cause functional and cosmetic disabilities. A case of intramuscular lipoma of tongue is reported for the rarity of site and number and to review the clinical, diagnostic and histopathologic findings.

Key words

Oral lipomas, Intramuscular, Tongue

1 Case history

A 75 year old male presented with, painless swelling on the left lateral border of the tongue that had progressively increased in size over a period of 2 months. Clinical examination revealed a lobulated swelling in the tongue with no surface ulceration (see Figure 1). There were no signs of inflammation, airway obstruction or speech alteration nor facial asymmetry or lymph node enlargement. No dental implants were used by the patient. Differential diagnoses were mainly lipoma, pyogenic granuloma, lymphangioma of tongue, fibroma, papilloma, malignant salivary gland tumor. However lipoma was favoured because of the soft rubbery consistency.

The lesion was removed in toto with a 1 cm margin as per the institute protocol, as we mainly deal with malignant masses. It is observed that, there will be 30% shrinkage of the margin post excision.

2 Materials and methods

The segment of tongue harboring the swelling was received at the laboratory. Representative tumor bits were frozen at -22°C in a cryostat. Five microns thick frozen sections were cut and rapid hematoxylin & eosin and Oil red O stains were performed.

3-4 microns thick sections were cut from 10% neutral buffered formalin fixed paraffin embedded tumor tissues. H and E stained sections were reviewed and IHC was performed.



Figure 1. Gross findings at surgery - lobulated swelling in the tongue with no ulceration of epithelium

3 Results

Gross examination revealed a globular swelling which measured 1.5cm×1.5cm×1.3cm and was soft in consistency. Its cut surface showed a well circumscribed yellowish lesion. The frozen section was reported as an infiltrating tumor showing adipocytes, most likely an intramuscular lipoma with free resected margins. Oil red O stains of the frozen sections highlighted the adipocytes (see Figure 3). Examination of paraffin embedded sections revealed an intact stratified squamous epithelial lining with a subepithelial lesion composed of mature adipocytes traversing between the bundles of skeletal muscle fibres (see Figure 2). No cellular atypia, necrosis or mitotic activity was seen. There were no features of malignancy and the case was diagnosed as intramuscular lipoma of the tongue. Immunohistochemistry revealed cytoplasmic positivity for Vimentin(Vim3B4-DAKO) (see Figure 4) and S100 (polyclonal rabbit anticow antibodies-DAKO). Immunohistochemical findings concurred with the histopathological findings.

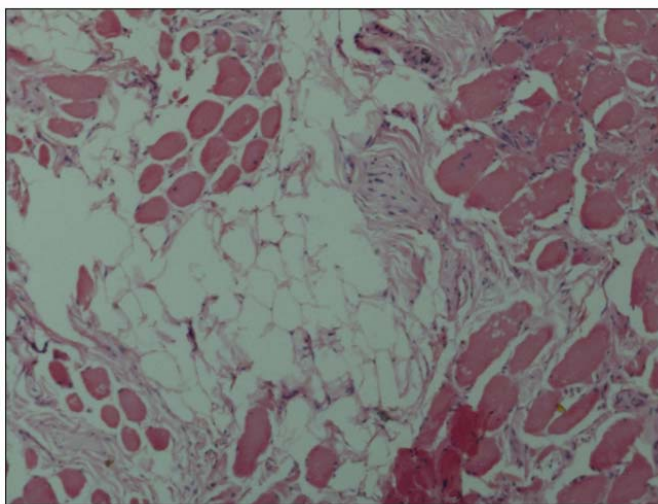


Figure 2. H&E stained section showing mature adipocytes between muscle fascicles (100× magnification)

4 Discussion

Lipomas are common, benign, subepithelial single or multiple, superficial, deep seated or infiltrating multilobulated tumors of varying size located in any site, and of different types where fat is normally present^[1-3]. The macroscopic appearance, CT and MRI of this lesion may sometimes provide imaging features simulating sarcoma^[4]. Definitive diagnosis depends on correlation between the histological and clinical features^[5].

Grosch in 1887 reported 716 cases of lipoma, none of which occurred in the oral cavity. Lipomas in the oral cavity have been described as early as 1943 in 3 of 460 lipomas by Geschieter. Papanoyotou et al reported 13 cases of lipomas, out of 156 cases of benign tumors during the period 1984 to 1998^[6]. Oral lipomas are relatively uncommon and represent 1%-4% of all benign oral tumors^[2] with lipomas of the tongue being exceedingly rare with respect to the anatomical site and represent about 0.3%^[7-9]. To the best of our knowledge, till date 7 cases of lipoma of tongue have been reported in the literature from India and this is the eighth case.

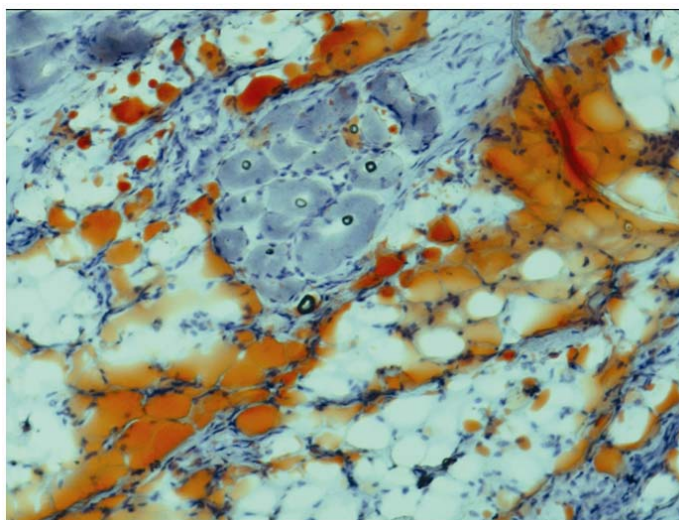


Figure 3. Oil red O on frozen section highlighting adipocytes (400X)

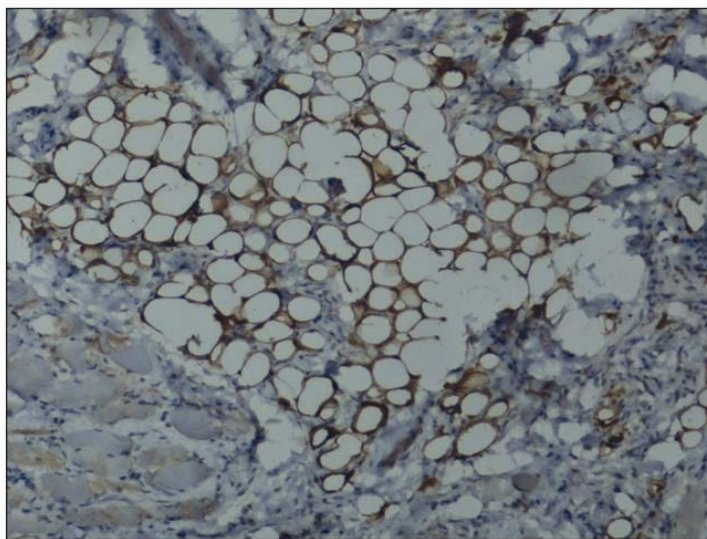


Figure 4. Immunohistochemistry shows positivity for S100.

Lipomas of the tongue usually present as soft nodular, yellowish coloured asymptomatic painless swelling covered by normal mucosa^[10]. Once present, a mucosal oral lipoma may increase to 5-6 cm over a period of years, but most cases are less than 3 cm in their greatest dimension at the time of diagnosis as was our case. However the present case showed infiltration into the muscle.

A review of the available data of 42 cases of lipoma of the tongue described in the literature from 1978-2005 by Akbulut et al^[11] and subsequent cases till date including cases from India revealed the age to range from 17-81 years with no gender predilection (19 males and 10 females). The variants of lipoma included the pleomorphic, spindle cell, atypical lipomatous types, chondrolipoma, intramuscular lipoma of the tongue, giant lipoma of tongue and others. Further the size of tumors ranged from 0.6 -10 cm. Infiltrating /intramuscular lipoma was reported in 6 cases from all around the world and three adult male patients (see Table 1) including the present case from India.

Table 1. Clinical details and other information of Lipoma of tongue reported in literature and from India

Reference & year	No	Age (yrs)/ gender	Size(cm)	Subtype
Akbulut, APJ 2005;2:146-49	24	37-81, 8F& 6M	0.6 - 6	pleomorphic, infiltrating, spindle cell, atypical lipomatous, multiple, infiltrating, intramuscular
Jablokow, JSO 1982;21:114-16	2	71,62/M	NA	NA
Moore et al. JLO,2001;115 (10): 859-86	1	43/M	NA	Atypical
Kaku et al APMIS 2003;111(5): 581-85	7	75/M	NA	multiple spindle cell
Jinbu et al OMP 2004;9:123-26	1	72/M	NA	symmetric lipomatosis
Chidzonga,Med OPOCB 2006;11:E437-9.	1	58/F	0.8	giant tongue lipoma
Chung, OH&NS 2007;137: 830-831	1	62/M	6	Huge lipoma NA
Nonaka et al JOS 2009;51(2): 313-16	10	30/M	NA	Chondrolipoma
Freitas, QI 2009;40:79-85	2	NA	NA	intramuscular
Ettl T, dDDG-2009;7:441-43	1	49/M	NA	Lipomatosis
Murakami H. N Engl J Med 2009;360:e33	1	88/M	NA	Lipomatosis of the Tongue
Colella et al Cases J. 2009; 2:7906	1	75/M	NA	Giant intramuscular
Rajan IJC 1994;30(4):199-201	1	NA	NA	NA
Thomas et al PMJ 2002;78:295-97	1	42/M	NA	Intramuscular lipomatosis & invasion
Metgud CR 2004;8(2):96-98	1	17/M	2	NA
Srinivasan IJO&H&NS 2006;59: 83-84,	1	NA	NA	NA
Goel et al KUMJ 2008;6:505-07	1	36/F	3	Chondrolipoma
Pattabi et al JM&SCR 2013;2:15	1	48/M	1.5	Lipoma
Garg et al JCAS 2011;4:152-53	1	55/M	0.7	Intramuscular lipoma

Lipoma, although morphologically indistinguishable from normal fat, differs from normal body fat in that its lipid is not available for metabolism, and it is usually surrounded by a thin fibrous capsule^[4]. Intramuscular lipomas are benign lipomatous tumors which infiltrate into the adjacent muscle. These have no capsule. The major differential diagnosis for intramuscular lipoma is well differentiated liposarcoma which is generally deep seated, large and has a propensity to recur. Histologically, lipoblasts are seen. The adipocytes are more pleomorphic with abundant vascularity and possible mitotic activity. Our case showed no atypia, no lipoblasts/mitotic activity. The other differential diagnosis to be considered is

myofibroma which consists of an admixture of adipose and vascular spindle cells scattered among normal and mature adipocytes in these tumors^[12].

Enzinger and Weiss suggested that genetic translocations t(3;12)(q12;q13) and t(3;12)(q28;q14), diabetes, hypercholesterolemia, and obesity maybe the etiologic factors of lipoma^[2]. Lipoblastic embryonic cell nest origin, hormonal cause, infection, fat degeneration, hereditary and chronic irritation have also been attributed^[13].

Recurrences have been reported to be about 3%-62.5% for the infiltrating lipoma cases^[7] and advocates the need for meticulous complete surgical excision^[11]. Surgical resection with a 1 cm margin was the mainstay of treatment in this case. Follow-up of these patients is needed to identify recurrence of the tumor. However, it rarely recurs in the oral cavity after complete removal^[14].

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