

How Important is Histopathology in Management of Benign Lesions of Tongue

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ABSTRACT

Introduction: Lipomas are amongst the commonest tumors of human body. Approximately 15 to 20% occur in head and neck but oral cavity is an unusual site. They represent 0.1-5% of all benign intraoral tumors, with most lesions occurring in the buccal mucosa. We report a rare case of intramuscular lipoma of lateral border of tongue.

Case report: A 55-year-old female presented with progressive swelling on lateral border of tongue. Complete excision along with healthy margins was done, and histopathology suggested it to be an infiltrating lipoma. Patient had no recurrence in 2 year follow up.

Discussion and conclusion: This type of lipoma is rare (<25 cases have been reported so far) and only two cases with histopathological documentation could be traced in literature. It has close resemblance to liposarcoma, a malignant tumor with high propensity to recur. Therefore, complete excision with healthy margin is mandatory for this rare clinical entity.

Keywords: Lipoma, Benign, Infiltrating, Adipose Tissue.

INTRODUCTION

Lipoma is the most common benign mesenchymal tumor of adipose tissue. Although 15-20% of these tumors occur in head and neck region, their occurrence in oral cavity, is rare. They represent only 0.1-5% of all benign tumors of mouth.¹ Common sites being buccal mucosa and salivary glands. And the unusual sites include tongue, floor of mouth, vestibule, lips, gingivae and palate.^{2,3} They usually occur in the age group of 40-60yrs with slight male dominance.²

As tongue does not contain fat cells, its occurrence in tongue is unusual and still rarer is its infiltrating variety. Lipoma of tongue accounts for 0.3% of all tumors of the oral cavity.^{1,3} They usually affect lateral border of anterior two- third of the tongue submucosally. We present a case of infiltrating/intramuscular lipoma, which, to best of our knowledge, will be the third case with histopathological documentation, to be reported in the literature.³ Though there are about 25 cases⁶ reported so far (Table1). It was first described by Regan in 1946. Intramuscular lipomas are located mostly in limbs (50% in thigh, 20% in the shoulder region and upper arm, 20% in the chest wall, and 10% in other locations).⁸ Infiltrative lipomas differ from simple lipoma by being larger in size, having infiltrative pattern, ill-defined capsule, deeper location and a high recurrence rate.^{3,7}

CASE REPORT

A 55-year-old female presented with a painless swelling on left side of tongue for last four years. This swelling was insidious and non progressive to start with but then showed a



Figure-1: Intraoperative photograph

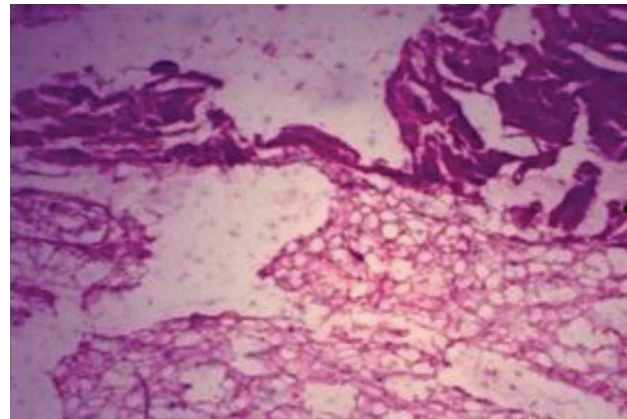


Figure-2: Histopathological photograph showing fat cells and striated muscle. (45X-H&E staining)

gradual increase in size over six months. There was no other significant history except, cholecystectomy done ten years back.

Examination revealed a submucosal, pinkish swelling, about 3x3cm in size on the left side of anterior 2/3 of tongue. This

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S.N.	Authors	Year	No. of cases	Age(yr)	Sex	Subtype of lipoma
1	Bernhoff & Wood	1978	1	68	M	Oral Infiltrating Lipoma
2	Brahney	1981	1	81	F	Angiolipoma of tongue
3	Gouillou	1986	1	60	F	Pleomorphic lipoma tongue
4	Garavaglia & Gnep	1987	1	38	M	Infiltrating Lipoma tongue
5	Shirasuna	1989	1	56	F	Infiltrating Lipoma tongue
6	Takeda	1989	1	37	M	Infiltrating Lipoma tongue
7	Lombardi & Odell	1994	1	68	F	Spindle cell lipoma oral cavity
8	Kacker	1996	1	79	M	Atypical lipomatous lipoma
9	Karapantzos	1998	1	77	F	ND
10	Matsumato	1999	1			Infiltrating Lipoma tongue
11	Epivatianos	2001	2	56,64	F,F	Infiltrating Lipoma tongue
12	Moore	2001	1			Multiple
13	Thomas	2002	1	42	M	Infiltrating Lipoma tongue
14	Keskin	2003	1	54	M	Infiltrating Lipoma tongue
15	Fregnani	2004	2	NA	NA	Infiltrating Lipoma tongue
16	Furlong	2005	8	NA	NA	
17	Akbulut	2006	1	50	F	Infiltrating Lipoma tongue
18	Spencer, Daniel	2009	1			Infiltrating Lipoma tongue
19	Freitas	2009	2	NA	NA	Infiltrating Lipoma tongue
20	Collela	2011	1	54	M	Infiltrating Lipoma tongue
21	Monika Garg	2011	1	55	M	Infiltrating Lipoma tongue
22	Orlando Cavezzi Junior	2013	1	64	M	Infiltrating Lipoma tongue
23	Shailaja Prabhala	2015	1	75	M	Infiltrating Lipoma tongue
24	L Tettamanti	2014	1	57	F	Fibrolipoma
25	Anila PC Namboodiripad	2016	1	60	F	Infiltrating Lipoma tongue
26	Sasikumar Pattabi	2013	1	48	M	Lipoma of tongue
27	Ali Amirzadeh	2014	1	68	F	Infiltrating Lipoma tongue

Table-1: Showing review of literature in a tabular form

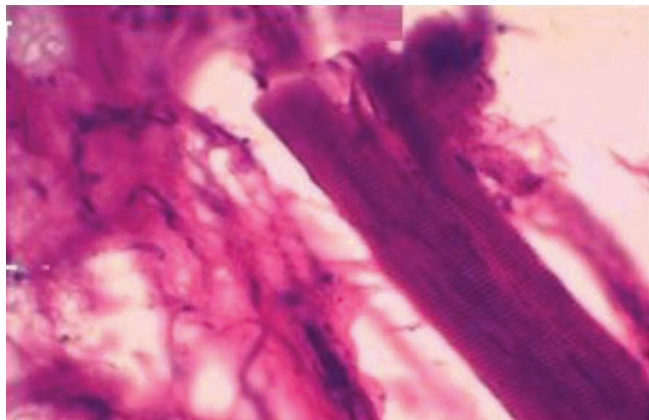


Figure-3: Magnified view clearly showing fat cells and bundle of striated muscle (100x, H&E staining)

swelling was firm, mobile, non tender, and did not blanch on pressure. Systemic examination was non contributory. A provisional diagnosis of neuroma or fibroma was made and patient was investigated to clinch the exact diagnosis.

Fine needle aspiration biopsy was done twice but was inconclusive. Patient was planned for an excision biopsy. Under general anesthesia, a V-shaped incision was made over the swelling and the swelling was excised using sharp and blunt dissection taking 0.5cm of healthy margins (Fig.1). The incision was closed in layers and the specimen was sent for histopathology. Report revealed mature fat cells which were infiltrating the striated muscles of the tongue (Figs.2 and 3). There were no malignant cells seen in the excised

specimen. The histopathology suggested a diagnosis of infiltrating/ intramuscular lipoma of tongue. The patient reported no recurrence in two year follow up.

DISCUSSION

Benign lipomatous tumors are grouped into five categories⁵: 1) Lipoma, 2) Variant of lipoma, 3)Heterotropic lipomas, 4) Diffuse or infiltrating neoplastic/non neoplastic proliferations of mature fat and 5)Hibernoma. Intramuscular lipoma is a rare subtype of “Heterotropic lipomas”.

Only a few cases have been reported so far. Rarity of intramuscular lipoma of tongue can be judged by reviewing the literature, as summarized in Table 1. The table depicts the number of cases reported by the author in respective year, along with the age and sex distribution. Average age is between 50-70 years with no gender prediction. As shown in the table, not all the cases reported previously, belong to infiltrating lipoma of tongue, a few of the lipomas are other subtypes of lipoma or are situated at subsites other than tongue.

Multiple lipomas are seen in neurofibromatosis, Gardner’s syndrome, Cowden’s syndrome, encephalocraniocutaneous lipomatosis, multiple familial lipomatosis and Proteus syndrome.⁵ Etiological factors⁹ implicated are trauma, previous radiation, history of diabetes, rheumatoid arthritis, obesity, family history of cancer and chromosomal translocation [t (3:12)(q27:q13) & t(3:12)(q28:14), rearrangement of band 12q14 & ring chromosomes. Majority

of oral lipomas rarely grow greater than 2.5 cm in diameter² and the weight ranges from 0.14grams to 32grams.

Grossly lipomas are soft, well circumscribed, thinly encapsulated, pale yellow, greasy surfaced with irregular lobular pattern. Microscopically they are composed of mature fat cells which are uniform in shape and size, extending upto 200µm in diameter, having a large lipid vacuole, uniform nuclei, lobular pattern, and thin capsule. Secondary changes in form of infarction, hemorrhage and calcification may be seen.⁹ Intramuscular lipoma has no capsule and infiltrates into skeletal muscle.⁷ It is difficult to distinguish it from a liposarcoma. The features differentiating between these two entities are the absence of lipoblastic proliferation, myxoid differentiation, cellular pleomorphism, increased vascularity and mitotic activity.^{1,2,5} Other differential diagnosis include fibroma, neurofibroma, encapsulated abscess, schwannoma, cyst and adenomas of minor salivary glands, pleomorphic lipoma, spindle cell lipoma, atypical lipomatous lipomas (variants of lipoma), myxoma, myxosarcoma, lingual thyroids, granular cell myoblastomas, and angiomas.^{7,10}

Ultrasonography shows an elliptical or a round lesion with a thin capsule and hypochoic texture and echogenic lines or spots. Computer Tomography(CT) and Magnetic Resonance Imaging(MRI) helps in differentiating simple lipoma from its infiltrating variety and liposarcoma as well as helps to know the extent of tumor.^{8,11} Though MRI is better for delineating the extent of the tumor. On CT scans, lipomas appear as homogeneous hypoattenuated masses with their density ranging from -60 to -120 HU and do not show contrast enhancement. On MR images, fat has typical signal intensity. On T1-weighted images, lipomas tend to have high signal intensity that diminishes with progressive T2 weighting. Fat is also suppressed with the use of fat-suppression pulses. We did not perform MR scan due to small size of the tumor and to prevent financial constrain to the patient. Lipoma is usually diagnosed on FNAB but exact diagnosis can only be made on histopathology. We performed FNAB twice but no diagnosis could be made therefore we resorted to excision biopsy.

Achievement of adequate surgical margins is essential, as the recurrence rate is as high as 62% compared with <5% in case of simple lipomas.^{5,12} As per the literature, no case of infiltrating lipoma has undergone a malignant change. New development in the treatment options includes excision using electromedical devices such as the diode laser.

CONCLUSION

Lipomas of tongue are rare tumor and intramuscular lipomas are extremely rare variant. Close differential diagnosis includes liposarcoma, a malignant tumor.

Investigations of choice are MRI, FNAC and Histopathological examination of surgical specimen. For every lipoma a complete surgical excision with adequate margin should be done, as it recurs if adequate margin are not taken care of. Regular follow up serves an eagle's eye to detect any recurrence, if at all.

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