Case Report

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Transpositional Flap for Reconstruction of Tongue Lipoma: A Case Report with Literature Review

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ABSTRACT

Intraoral lipoma is a rare benign, gradually progressive tumour of adipose tissue. Although extremely common tumour of mesenchymal origin elsewhere in human body where fatty tissue is normally present, their existence in oral cavity however, is rare. Lipoma of tongue, despite being devoid of fat cells is also unusual site and very rare, representing about 0.3% of tongue tumours. Various theories explain pathogenesis of this adipose tissue tumour but cause still remains idiopathic. Here, a rare case of lipoma on the lateral aspect of tongue is reported in 69-year-old female. Tumour was completely excised and defect closed by transpositional flap.

Key words: Lateral tongue; lipoma; transpositional flap.

INTRODUCTION

Lipomas are the most common superficial mesenchymal neoplasms in the human body especially in the proximal parts of the extremities and trunk, however, 15-20% of the cases occurring in the head and neck region. They are rarely seen in the oral cavity, especially at the major salivary glands, buccal mucosa, lip, tongue, palate, vestibule, and floor of mouth.[1]

We report a case of 69 years old female who had a lipoma on her right lateral aspect of tongue. It is surprising to know that the tongue, despite being devoid of fat cells is rarely a site for lipomas.

CASE REPORT

A 69 years old female patient was referred by general dental clinician with a painless submucosal swelling on the right lateral border of the tongue which was present there for an unknown period of time (Figure 1-A). The patient was totally unaware of the lesion. It was recognised when the patient attended for replacement of missing tooth by removal partial denture. There was no interference in speech or mastication. The patient's medical history and systemic examination were not significant. There was no previous history of infection, trauma, or tongue bite.

Intraoral examination of the tongue revealed a well-defined, non-tender, non-pulsatile, soft mass which was free from the muscles of the tongue with a positive "slip sign".

Surgical excision is the mainstay of the treatment. So, it was excised under general anaesthesia. An

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elliptical incision was made directly over the crest of mass which showed a yellowish lobulated mass. Utmost care with only blunt dissection was used throughout the procedure to prevent the rapture of mass. The typical appearance of an adipose tissue set with a capsule surrounding its periphery supported our diagnosis as lipoma. The excised mass measuring 2 X 2 cm in diameter was sent for histopathological confirmation.

Then transpositional flap was used to obliterate dead space and provide sufficient tissue to close the defect (Figure 1-B,C,D). After successful haemostasis the mucosal layers were apposed with absorbable sutures. Gross histological examination showed round to oval mature fat cells with peripherally placed nucleus, arranged in lobules, separated by thin cord of fibers. Striated muscles and few blood vessels containing lymphocytes and mast cells were seen (Figure 1-E). This was consistent with the diagnosis of a simple classical lipoma. Healing was excellent and no recurrence was observed at six-month of follow-up (Figure 1-F).

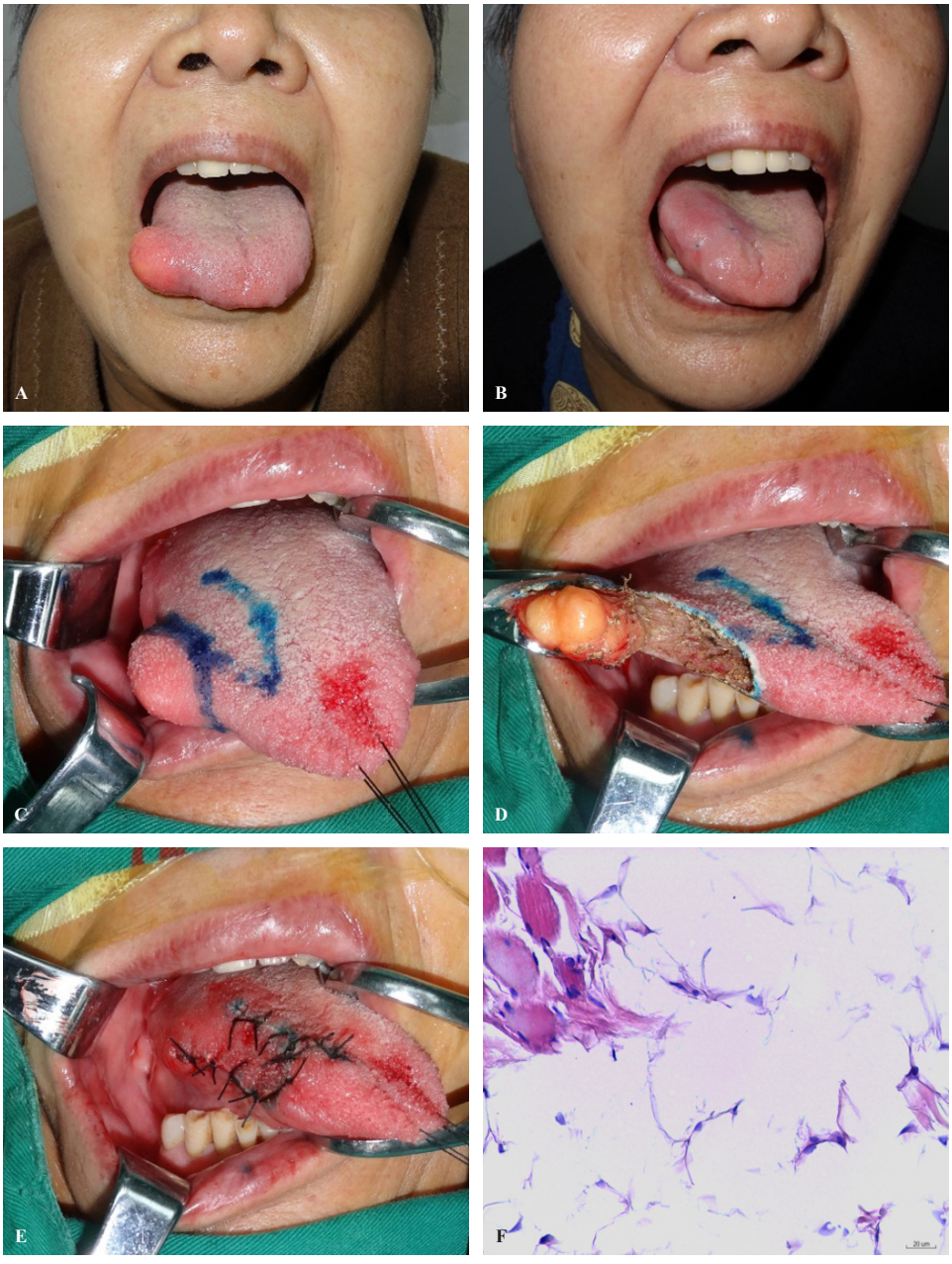

Figure 1: A 69 years old female presented with lipoma on her right lateral margin of the tongue. (A) Pre-operation view; (B) Post-operative after six months; (C) Design of the transpositional flap of the tongue lipoma; (D) Exposure of the tongue lipoma; (E) Closure of the defect with transpostional flap; and (F) Histological section .

DISCUSSION

In 1848, Roux[2] described the first oral lesion and named it as "yellow epuli". Oral lipomas accounts for approximately 1.0-4.4% of all benign oral lesions.[1,3] It usually presents as well defined, slow-growing, usually movable, and painless tumour with a varying consistency from soft to firm. These tumours are usually asymptomatic and are detected on routine oral examination. Continuous growth of tumour size may interfere with speech and mastication due to tumour dimension.[4] The prognosis of this tumour is always good.[5]

Lipomas usually occur as soft tissue tumours, mostly located subcutaneously, although rarely found in the oral cavity.[6,7] The occurrence in tongue accounts for 0.3% of tongue neoplasms. Clinically, these present as painless, mobile, submucosal nodules. They can be sessile or pedunculated, varying in consistency from soft to firm with intact overlying epithelium in the tongue. Furlong et al., mentioned that oral lipoma is seen more frequently in men. While Freitas et al., showed oral lipoma has a predilection of occurrence for women.[8,9] They may remain unnoticed for months to years before diagnosis.[7]

Even though the increasing knowledge of fatty tissue and fat metabolism, the etiology and pathogenesis of lipoma remain ambiguous, as some authors believe that trauma could be a cause while others believe certain factors like obesity, heredity, hormones, congenital factors and progressive infection have been involved in the formation of lipoma, regardless of site.[3,10] Rare reported cases of intra oral lipomas have shown involvement of 12q, 13q, and 6p chromosomes.[11] Five percent of lipomas located within the connective tissue are numerous and this is sometimes inherited as an autosomal dominant trait that might be observed in multiple familial lipomatosis, Proteus syndrome, Dercum's syndrome, Gardner syndrome[12,13] multiple hamartoma syndrome, or Cowden syndrome.[14] Lipomas should be differentiated from dermoid cysts, ranulae, thyroglossal duct cysts, pleomorphic adenomas, ectopic thyroid tissues, mucoepidermoid carcinomas, angiolipomas, fibrolipomas and malignant lymphomas.

Cottrell et al. have shown that computed tomography or magnetic resonance imaging may help in diagnosis of lipomas.[15] The histopathology remains the golden standard in diagnosis of lipoma. Microscopically lipoma consists of mature adipocytes. In 20% cases it shows histologic variants that comprises simple, angiolipoma, fibrolipoma, pleomorphic lipomas, intramuscular (infiltrating) lipomas, salivary glands lipoma (sialolipomas), mixoidlipomas and atypical lipomas.[16] According to Avelar et al.,[17] the most common histopathologic type is simple lipomas, which is rare in children. However, lipoblastoma and lipoblatomatosis are more commonly observed in these age groups.

Conservative surgical excision is the standard treatment for these lesions. Recurrence rate is rare in most variants except for intramuscular (infiltrative) type, having a high recurrence rate without adequate excision due to fact that they are not encapsulated like simple lipomas.[18] Therefore, complete surgical excision is imperative. Most of the surgeons close the defect after ablation of tumour by direct suturing but here transpositional flap was used, the main reason for choosing this flap was that it facilitates closure of the donor defect without excessive wound closure tension and maintain oral function sufficiently.

The disadvantage of this flap is trapdoor deformity which refers to the puffing up or out-pouching of a flap. It usually occurs for bulky defects (more than 3 cm). Malignant degeneration of intraoral lipoma is very rare,[19] typically more potential threat in a huge lipoma. After complete excision of the lesion, we did not find any signs of recurrence on regular follow-up for one year.

The authors reviewed the reported cases of lipomas of tongue from 1978 to 2014. Thirty-seven English language literature papers as well as present case

was reviewed (Table 1). The lipoma on tongue occurred more in males than that in females (the ratio of male to female was 1.3:1). The peak incidence of the tumours was observed in the fifth decade of life (average 57.16 years). Tumour size ranged from 0.6 to 11 cm (mean 1.9 cm). The frequency of the lipoma occurred more in lateral aspect of the tongue followed by dorsal, tip, ventral, and mixed. The most common types reported were simple followed by intramuscular, atypical, liposarcoma, condrolipoma, classic, condroma, condroid, pleomorphic, myxoid, multiple, and spindle cell. The cases were more addressed in Japan followed by Brazil, Italy, and India. The average follow-up of the reported cases was 10.13 months.

Table 1: Data of cases with lipoma of the tongue of the reviewed references.

Case Number	Author (Year)	Race	Age/ Sex	Site in tongue	Size (cm)	Type of lipoma	Follow-up (months)	Duration of stay (months)
1	Bernhoff and Wood (1978)	NA	68/M	NA	NA	Intramuscular	NA	NA
2	Brahney (1981)	NA	81/F	NA	NA	Intramascular	NA	NA
3	Gouillou (1986)	NA	60/F	NA	NA	Pleomorphic	NA	NA
4	Garavaglia and Gnepp (1987)	NA	38/M	NA	1	NA	NA	NA
5	Shirasuna (1989)	NA	56/F	NA	1	NA	NA	NA
6	Takeda (1989)	NA	37/M	NA	1	NA	NA	NA
7	Maes and Eulderlink (1989)	NA	47/M	Lateral	1	Chondro Lipoma	NA	NA
8	Fujiamura and Enomoto (1992)	NA	56/M	Dorsum	1.5	Chondrolipoma	NA	NA
9	Roles (1995)	NA	58/M	NA	NA	Classic	NA	NA
10	Lombardi and Odell (1994)	NA	68/F	NA	NA	Spindle cell	NA	NA
11	Kacker and Taskin (1996)	NA	79/M	NA	NA	Atypical lipomatous	NA	NA
12	Hietanen and Makinen (1997)	NA	68/F	Dorsum	1.4	Chondrolipoma	NA	NA
13	Keskin (2002)	NA	54/M	NA	NA	Multiple	NA	NA
14	Orieta et al. (2000)	Japan	70/M	Lateral	1	Liposarcoma	8	NA
15	Gagari et al. (2000)	NA	73/M	NA	2	Simple	NU	NA
16	Moore et al. (2001)	NA	43/M	NA	0.8	Atypical lipoma	10	NA
17	Piattelli et al. (2001)	NA	49/F	Lateral	0.8	NA	NA	NA
18	Nunes et al. (2001)	NA	65/M	NA	1	NA	NA	NA
19	Bengezi et al. (2002)	NA	67/M	NA	1.5	Myxoid	24	NA

Case Number	Author (Year)	Race	Age/ Sex	Site in tongue	Size (cm)	Type of lipoma	Follow-up (months)	Duration of stay (months)
20	Metin Akbulut et al. (2005)	Turkey	50/F	Lateral	0.6	Intramuscular	60	3
21	David J et al. (2006)	Nigeria	45/M	Dorsum	10	NA	NA	120
22	Marika R. Dubin (2006)	USA	39/M	Lateral	1	Liposarcoma	168	6
23	Midian (2006)	Zimbabwe	58/F	Tip	11	Classic	NA	36
24	Matheus (2007)	Brazil	62/F	Dorsum	5	Intramuscular	8	48
25	Goel et al. (2008)	India	36/F	Lateral	3	Chondrolipoma	1	NA
26	Kuyama et al. (2009)	NA	28/F	Dorsal	1.6	Chondrolipoma	NA	NA
27	Giuseppe Colella (2009)	Italy	75/M	Tip	10	Intramuscular	15	900
28	Rafieiyan N (2010)	NA	60/F	ventral	1	Simple	12	NK
29	Norifumi M (2010)	Japan	68/M	Lateral	1.2	Liposarcoma	NA	36
30	Tomofumi Naruse (2011)	Japan	58/F	Lateral	3.5	Intramuscular	15	6
31	Revista (2011)	Brazil	61/M	Lateral	1.5	Simple	NA	2
32	Shady AM (2011)	UK	40/M	Tip	1	Simple	NA	12
33	Carine Tabarani (2012)	Lebnon	69/M	Ventral	1.5	Simple	12	48
34	Paolo (2012)	Italy	45/F	Lateral	2	Simple	24	60
35	Chandak et al., (2012)	India	75/M	Lateral +Ventral +Dorsal	10	Simple	NA	240
36	Ayman FA Foad (2012)	Sudan	40/M	Dorsum	1.5	Atypical lipomatous	12	48
37	Present study (2014)	China	69/f	Lateral	2	Simple	6	NA

NA = Not Available; M = Male; F = Female.

SUMMARY

Clinically, these fatty tumours of adipose tissue origin are not fascinating as such, but the sites of their existance may captivate our attention. The tongue which is a rare site for lipoma can be noticed during tooth examination. Conservative surgical excision is mainstay for treatment. The total excision should be emphasised during the first surgical procedure, as it is the key factor in order to avoid recurrences.

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Conflict of Interest: None.

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