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Case Report

Dentistry Section

Oral Fibrolipoma Arising from Maxillary Alveolus: A Rare Case Entity

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ABSTRACT

Lipoma is a non malignant tumour of adipocytes. Lipomas are most commonly seen during 4th to 6th decades of life. About 20% lipomas are seen in head and neck region of which only 1-4% have been reported in oral cavity. Most common site of occurrence in oral cavity is buccal mucosa and tongue (50%). Various histological variants of lipoma have been identified, which include fibrolipoma, angiolipoma, infiltrating (intramuscular) lipoma, pleomorphic lipoma, osteolipoma, sialolipoma, chondrolipoma, myxolipoma and spindle cell lipoma. Fibrolipoma is a rare histological variant and occurrence on alveolus is even rare. This case reports a case of fibrolipoma of size 2×2 cm arising from maxillary alveolus in a 42-year-old female patient with a long standing history of four years.

Keywords: Adipocytes, Buccal mucosa, Lipoma, Long-standing growth

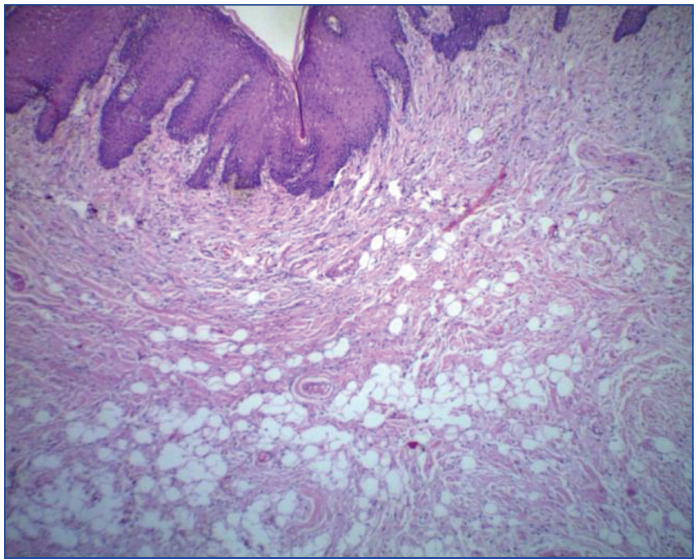
CASE REPORT

A 42-year-old female patient presented with a chief complaint of a solid, long standing growth in left maxillary posterior region to a private dental practitioner. The swelling first appeared 4 years ago and since then it showed gradual increase in size. The patient had discomfort during mastication but no pain and no difficulty in speech and swallowing. Intraoral examination revealed a pink, well-defined, pedunculated tumour, of 2×2 cm size involving the left posterior maxillary alveolus. On palpation, the tumour was well-circumscribed, soft, fluctuant and non tender. The mass showed positive "Slip" sign, meaning the lesion was slipping from observer's fingers during palpation [Table/Fig-1]. A provisional diagnosis of intraoral lipoma was established. Fibroma, pyogenic granuloma, other benign tumours of mesenchymal origin and peripheral odontogenic tumour (peripheral ameloblastoma) were considered as differential diagnoses.

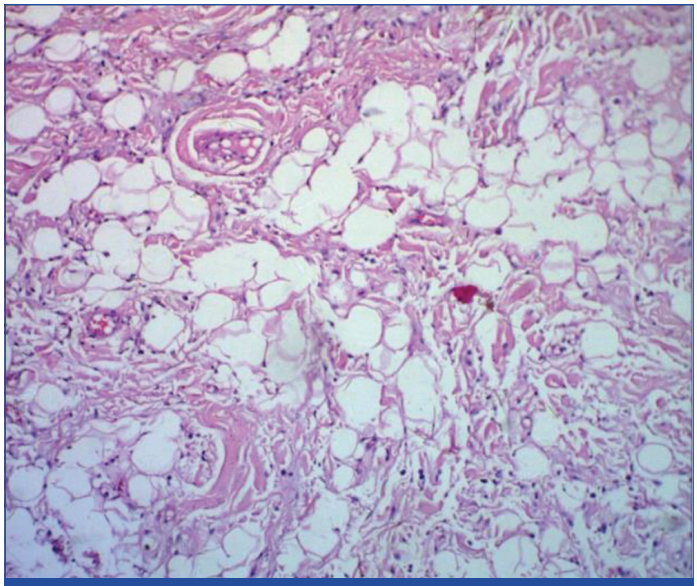
Routine blood examination report was normal. The patient was asked to sign on consent and the lesion was then excised surgically under local anaesthesia. The excised tissue was then dispatched for histopathological examination. Gross examination of the specimen showed a single bit of soft tissue of size 9×4×3 mm having a smooth surface, white in colour, oval shape and firm consistency [Table/Fig-2]. On microscopic examination, Haematoxylin and Eosin (H&E) stained section (10X) shows parakeratinised stratified squamous epithelium in association with underlying dense collagenous connective tissue stroma [Table/Fig-3]. In high power (40X) view, the connective tissue stroma shows presence of mature adipocytes forming lobules interspersed by fibrous tissue [Table/Fig-4]. Based on clinical and histopathological features, a diagnosis of fibrolipoma arising from maxillary alveolus was made. A follow-up was done after 15 days reporting no pain and discharge at suture site.

[Table/Fig-1]: Clinical photograph showing well-defined solitary pedunculated mass in the left posterior alveolar region of mandible.

[Table/Fig-2]: Photograph showing gross appearance of surgical specimen soft tissue with smooth surface of about 9×4×3 mm which is white in colour, oval shape and firm consistency.



[Table/Fig-3]: Photomicrograph showing parakeratinised stratified squamous epithelium with underlying dense collagenous connective tissue stroma (H&E stain, 10X).



[Table/Fig-4]: Photomicrograph showing the connective tissue stroma with presence of mature adipocytes interspersed by fibrous tissue forming lobules (H&E stain, 40X).

DISCUSSION

In 1948, Oral Lipoma was first described by Roux in his review of alveolar masses and he coined the term 'Yellow Epulis' for the lesion. In this review, majority of the lesions were developmental anomalies. The lesions occuring in head and neck region were usually seen arising in later decades and they were occasionally associated with trauma and presumed to be benign neoplasm of fat tissue. Rearrangement of 12q, 13q, 6p chromosomes was seen in few Lipomas [1].

Lipomas are defined as benign, slow-growing tumour of mature adipocytes. The pathogenesis of lipoma is not dependant on the normal metabolism of body fat or on an individual's daily calorie intake. The normal body fat percentage is reduced when the person is starved or under some kind of diet, but the lipoma either remains same in size or rather an increases in its size sometime. As compared to normal fat, lipoma fat also shows rapid incorporation of fatty acid precursors and decreases lipoprotein lipase activity [2,3].

Different histological types of lipoma include angiolipoma, chondroid lipoma, myolipoma, spindle cell lipoma, hamartomatous lesions, diffuse lipomatous proliferations, and hibernoma [4-6]. Based on the histological criterion, lipomas are classied by World Health Organisation (WHO) as follows- conventional lipomas, fibrolipomas, angiolipomas, pleomorphic lipomas/spindle cell lipomas, myxolipomas, chondrolipomas, osteolipomas, myolipomas, lipomatosis, lipomatosis of the nerve, lipoblastomas and hybernomas [7]. In a study by Fletcher CD et al., out of a total 46 cases 39% of lipomas were fibrolipomas [4]. Another recent study conducted on oral lipomas showed 27% of cases to be fibrolipomas [8].

The aetiopathogenesis of fibrolipoma is still not known. Different studies suggested that it is either present since birth, caused due to hormonal imbalance or might arise due to fatty degeneration of fibroma or arises from the maturation of lipoblastomatosis [7]. Lipoblastomatosis is defined as infiltrative benign neoplasm of adipose tissue with lobules of immature adipocytes interspresed by connective tissue septa and areas of loose myxoid matrix [9]. Further maturation of both adipose and fibrous tissues leads to formation of mature strands of collagen leading to formation of lobules of mature fat cells separated by collagen bundles, called as fibrolipoma [9]. However, study also described fibrolipoma which was seen below a complete denture and suggested that continuous mild trauma can give rise to proliferation of fatty tissue [10].

So far only a few cases of fibrolipomas in oral cavity have been documented. As the proliferative activity of fibrolipoma is greater than the other variants, it is necessary for a correct treatment plan and complete follow-up to differentiation it from lesions such as fibroma and pleomorphic adenoma.

Fibrolipoma is seen in wide age range, from 3-56 years with mean age being 34 years [11]. About 45 cases of fibrolipoma of the oral cavity are described in the English literature [9]. The site frequency distribution is given in [Table/Fig-5]. It is seen in various sites of oral cavity of which the most common site is buccal mucosa. Only five cases of fibrolipoma have been reported in alveolar region including the retromolar trigone till date as tabulated in [Table/Fig-6] [9,14-16]. It shows a female predilection of 1:1.3, whereas, lipomas show a male predilection of 1.5:1 [8,11].

Site	No. of cases reported
Buccal Mucosa	18
Alveolus and RMT region	5
Lateral border of tongue	5
Floor of mouth	4
Palate	4
Lip	3
Vestibular region	2
Gingiva	2
Tonsil	1
Intraosseous lesion	1
Current case (Alveolus and RMT region)	1

[Table/Fig-5]: Site of distribution of oral fibrolipoma [9].

Lipoma and fibrolipoma both are usually well circumscribed and have a thin capsule. Fibrolipoma is made of lobules appearing like "chicken-wire", benign adipocytes, and broad bands of dense collagen unlike conventional lipoma. The consistency of this lesion ranges from soft to firm which depends on the amount and distribution of fibrous tissue and the depth of the tumour. In the present case report, the lesion was well-circumscribed, soft, fluctuant, painless and showed "positive slip-sign". The characteristic well-circumscribed nature and lack of history of trauma helps in differentiating it from the herniated buccal fat [12,13].

Histologically, fibrolipoma is composed of mature fat cells subdivided into lobules by fibrous septa. A well defined connective tissue capsule is seen from which multiple fibrous septa arise and divide

Author name	Age (years)/Gender	Clinical features	Provisional diagnosis	Final diagnosis	Follow-up
Phulari RGS et al., (2018) [9]	16/Female	Growth in the left retromolar region 2×2 cm in size.	Traumatic fibroma	Fibrolipoma	-
	60/Male	Long-standing growth on the alveolar ridge in relation to missing maxillary right first molar 1.8×0.9 cm in size.	Intraoral lipoma	Fibrolipoma	-
Pippi R et al., (2017) [14]	65/Male	Slow but continuous swelling of the lower left canine mucosa on the lingual side.	Solitary intraoral lipoma	Fibrolipoma	No recurrence of the lesion was observed after two years.
Amale KA et al., (2015) [15]	41/Male	A well-defined, round, pedunculated, pinkish-white growth on the left pterygomandibular raphe distal to 38, measuring about 2×2 cm.	Fibroma (Differential diagnosis-lipoma and neurofibroma)	Fibrolipoma	Postoperative follow-up of the patient after 4 months showed no signs of recurrence.
Vadvadgi VH and Saini R, (2014) [16]	65/Female	Pinkish, well-defined oval swelling measuring 2.5×3 cm present in the upper anterior region.	Intraoral lipoma	Fibrolipoma	No recurrence of the lesion has been observed.

[Table/Fig-6]: Oral fibrolipoma cases reported in alveolar and RMT region [9,14-16].

the adipocytes into lobules. Sometimes pseudo-infiltration might be seen in focal areas that may cause resemblance to malignant infiltrating lesions [17]. Differential diagnosis includes liposarcoma, pyogenic granuloma, lymphangioma, and schwannoma. Liposarcoma, although rare, cannot be differentiated from fibrolipoma clinically. Hence, histological examination is necessary to rule out the malignancy [10].

There is no clinical significance with respect to the histological subtypes and the behaviour of lipomas. Infiltrating fibrolipomas shows a high recurrence rate due to the absence of a capsule and its ability to penetrate the surrounding skeletal muscles [10]. In an immunohistochemical study conducted by Fregnani ER et al., fibrolipoma was found positive for PCNA and Ki 67 which was greater than lipoma [12].

The treatment of lipomas including fibrolipoma is usually surgical excision. This is a benign tumour but it may become life-threatening due to sudden asphyxia when present on upper aerodigestive tract [18]. A greater recurrence rate is seen after surgical excision in extraoral lesions as compared to intraoral intramuscular lipomas. Thus, simple surgical excision is the treatment of choice and it shows low recurrance rate [12].

CONCLUSION(S)

Fibrolipoma pose a diagnostic challenge to general dentists. Histopathological examination is gold standard for the confirmation of diagnosis. Arriving at a correct diagnosis will rule out the malignancy, prevent malignant transformation and help in providing proper treatment. More cases of fibrolipomas should be documented to make dentists aware of its features.

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