

## Case Presentation

# Spindle Cell Lipoma on the Floor of the Mouth

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Received: March 05, 2015; Accepted: September 10, 2015; Published: September 12, 2015

## Abstract

Spindle Cell Lipoma (SCL) is a benign lipomatous histological variant of lipoma which is rarely observed in the oral cavity. It presents as a circumscribed mass in the buccal mucosa, tongue, floor of the mouth or hard palate. In English literature there are nearly 10 case reports of SCL on the mouth floor, all of which were treated with local excision. A case is here presented of intraoral spindle cell lipoma on the floor of the mouth of a 49-year old female. Although oral SCL is rare, it should be considered in the differential diagnosis of lipomatous neoplasms occurring on the mouth floor.

**Keywords:** Lipoma; Spindle cell lipoma; Oral cavity; Mouth floor

## Introduction

Lipomas rarely occur in the oral and maxillofacial region. One kind is the Spindle Cell Lipoma (SCL), which is typically seen as a benign lipomatous neoplasm in the posterior neck and back of older males, and accounts for approximately 1.5% of all lipoma cases [1]. In the oral cavity, the buccal mucosa, tongue, and floor of the mouth are common locations of lipomas [2]. They present as a slow-growing, painless, asymptomatic yellowish, nodular, sub mucosal mass and are covered by normal mucosa. Oral lipomas may cause mastication and speech difficulties [3]. SCL is a distinct histological variant of lipoma derived from prelipoblastic mesenchymal cells [4]. SCL is a rare benign neoplasm, and oral SCL is extremely rare. In this paper, a case is reported of SCL localized to the floor of the mouth in a 49-year old female, and the clinical, histopathological and immune histochemical findings of this case are presented.

## Case Presentation

A 49-year old female patient was referred to the Department of Oral and Maxillofacial Surgery with the complaint of swelling on the floor of the mouth, which had been ongoing for 2 years (Figure 1). The patient complained of occasional discomfort while speaking. The growth was gradual in onset, and had slowly increased in size over a period of 2 years to reach its present size. The well circumscribed swelling was not tender on palpation, soft in consistency and mobile. In the intraoral examination, a smooth well-defined sessile nodule of similar color to the surrounding mucosa was detected on the anterior floor of the mouth (Figure 1). It was superficially located and non-infiltrating in front of the sublingual caruncle (opening of the submandibular and sublingual duct) on the floor of the mouth (Figure 1). Based on the history and clinical findings, a provisional diagnosis of lipoma was considered. Excisional biopsy was made under local anesthesia. The yellowish, well-circumscribed soft tissue mass with a lobulated surface 1.5 x 1 x 0.5 cm (length x width x thickness) in size was totally excised and sent for microscopic examination in 10% buffered formalin (Figure 2,3,4). In the microscopic examination of H and E stained slides, using a light microscope, a well-circumscribed nodular mass was seen. The histopathology of the soft tissue section showed an encapsulated lesion composed of abundant mature adipocytes arranged in lobules, infrequent blood capillaries,

collagen-forming CD34-positive spindle cells and wiry collagen in a variable myxoid background. The lobules were separated by fibrous connective tissue septa. The adipocytes appeared polygonal in shape with clear cytoplasm and the placement of a peripheral flat nucleus that was compressed against the cell membrane (Figure 5A, 5B). Based on clinical and histopathological findings, the swelling was finally diagnosed as SCL. No recurrence has been detected since surgery (Figure 6).

## Discussion

Lipomas usually occur in the shoulders, neck and axilla, whereas this benign tumor is rarely seen in the oral cavity. Intraoral lipomas are rare and statistically constitute approximately 1-4% [4] and SCL constitute approximately 1.5% of all adipose tumors [5]. Intraoral



Figure 1: Preoperative clinical situation: Swelling on the floor of the mouth.



Figure 2: Yellowish, well-circumscribed soft tissue mass.



Figure 3: Surgery site after excision of mass.



Figure 4: Macroscopic examination revealing a nodular lesion.

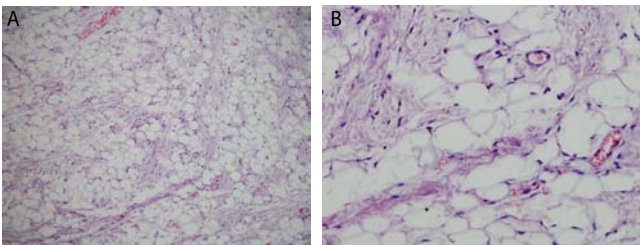


Figure 5A-5B: The histological features revealed fat cells, well vascular network, spindle cells (H&E).

lipomas are benign mesenchymal neoplasms that originate in mature adipose cells with a differential diagnosis of other soft tissue lesions such as mucoceles, dermoid cysts, ranulae, thyroglossal duct cysts, pleomorphic adenomas, angioliipomas, fibrolipomas and malignant lymphomas. In the oral cavity, the buccal mucosa, tongue, and floor of the mouth are the most common locations [5]. Histologically, they can be classified as simple lipoma, fibrolipoma, SCL, intramuscular or infiltrating lipoma, angioliipoma, pleomorphic lipoma, myxoid lipoma and atypical lipoma [3]. The most common site for SCL is the tongue (37%), followed by the cheek/buccal mucosa (31%), and floor of the mouth (15%) but other locations such as the lip, hard palate, alveolar ridge and maxilla have also been reported (Table 1) [6].

SCL is a benign neoplasm and was originally described by Enzinger and Harvey [7]. SCL typically occurs as a painless, slow growing and solitary mass. SCL appears to be well-circumscribed and may demonstrate a thin capsule with a fatty, mucoid or shiny surface, with consistency varying from soft to firm according to the collagen

content [8, 9]. Microscopic examination showed mature typical fat cells, spindle cells, thick collagen bundles, myxoid interstitial material. The spindle cells are characterized by oval or elongated nuclei and cytoplasm is sparse, poorly defined and eosinophilic [10]. Spindle cells do not react with antibodies to S-100 and factor VIII or to  $\alpha$ -smooth actin muscle or desmin. A nerve sheath, endothelial or muscular origin can therefore be eliminated [11, 12]. In contrast, spindle cells show an immunoreactivity to CD34 and vimentin [13]. CD34 is rarely seen in well-differentiated liposarcoma and can prevent the misdiagnosis of SCL as liposarcoma [6]. In contrast to liposarcoma, SCL has a superficial location, a well-defined mass, a uniformity and association of the spindle cells with mature and regular collagen fibers, and no lipoblasts or mitotic (Figure 6).

The differential diagnosis of SCL is important because it can easily be misdiagnosed as a malignant lesion such as a liposarcoma. Liposarcoma in sites of easily accessible areas such as the tongue should be classified as atypical lipomas whilst similar tumors arising in inaccessible sites where complete excision of the lesion is difficult to perform should be designated as liposarcoma [14].

The clinical features of the case reported are suggestive of lipoma. Hematoxylin and eosin stained sections showed an expansive mesenchymal neoplasm composed of mature typical fat cells, connected by a fine vascular network, with spindle cells and thick fibrous bundles permeating the fat cells. Spindle cells have little cytoplasm and elongated nuclei in a regular arrangement. No lipoblastic activity is observed in SCL and there are seldom mitotic figures.

## Conclusion

In summary, SCL is a benign soft-tissue neoplasm that is an uncommon variant of lipoma. The lesion is typically slow-growing in nature, encapsulated and usually symptom free. Surgical excision is the elective treatment of choice in cases where the lesion is encapsulated and can be easily removed from surrounding tissues. The relapse of this variant is uncommon, but long-term follow-up is essential.

## Acknowledgment

The authors report no conflict of interests related to this case report.



Figure 6: The final intra-oral view.

**Table 1:** Features of the 41 spindle cell lipoma reported in the oral cavity.

	Age(years)	Sex	Location	Size (mm)	Follow-up (Years)
Mc Daniel et al. 1984	33	F	Floor of mouth Tongue	10	2
	52	M			8
Christopoulos et al. 1989	58	M	Hard palate	20	2
Levy & Goding 1989	74	F	Floor of mouth	45	--
Lombardy & Odell 1994	68	F	Tongue	15	--
Tosios et al. 1995	55	M	Cheek	40	2
Khoo & Lian 1995	23	M	Cheek	50	--
Piatteli et al. 1999	75	M	Cheek	20	--
Dutt et al. 1999	42	F	Tongue	30	--
Agoff et al. 2001	61	F	Buccal vestibule		
Said-Al- Naief et al. 2001	66	M	Tongue		
	53	F	Tongue		
Darling et al. 2002	69	M	Alveolar ridge	5	2
Atik et al. 2002	45	M	Tongue	20	
Kaku et al. 2003	75	M	Tongue	30	
Matsuura et al. 2005	78	M	Tongue	10	
Piatteli et al. 2005	50	M	Floor of mouth	10	3
Kawasaki et al. 2006	42	F	Cheek	50	--
Coimbra et al. 2006	29	F	Floor of mouth	15	3
	55	F	Lower lip	6	
	84	F	Floor of mouth	10	1
	88	M	Buccal mucosa	10	2
Billings et al. 2006	55	F	Lower lip	6	
	84	F	Floor of mouth	10	
	88	M	Cheek	10	
	45	M	Tongue	9	4
	67	M	Tongue	10	2.25
	31	F	Tongue	3	1.5
	75	F	Tongue	5	
Imai et al. 2008	72	M	Tongue	15	1
Veccio et al. 2009	72	M	Cheek	25	
Stokes et al. 2011	35	M	Maxilla	15	0.7
Manor et al. 2011	23	M	Upper lip	24	5
Caldeira et al. 2011	38	M	Cheek	50	
	60	M	Hard palate	23	
Chandrashekahar et al. 2012	58	M	Buccal mucosa		
Manor et al. 2012	45	M	Tongue	15	2
	43	M	Buccal mucosa	25	1
Junior et al. 2013	64	F	Tongue	22	
Abdulaziz Al Sheddi et al. 2014	68	M	Mandibular mucogingival junction	20	1
Yalçın et al. 2014	49	F	Floor of mouth	15	1

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