



# Prevalence of oral lipomas in Indian population: An institutional retrospective study of 12 years and analysis of 49 published cases from 1976 - 2017 reported in Indian patients.

Dr Manas Bajpai<sup>1</sup>, Dr Manika Arora<sup>1</sup>, Dr Betina Chandolia<sup>1</sup>

## ABSTRACT

**Background:** Lipomas are benign mesenchymal tumors of soft tissue that can be found anywhere in the body: However their presence in oral cavity is very rare (4.4%). Histopathologically lipomas are classified as simple lipomas and different variants. The present study describes the prevalence of oral lipomas with relation to patient's age, their site of occurrence and histological pattern in Indian population.

**Methods:** All cases of oral lipomas reported in the department of oral pathology and microbiology, N.I.M.S dental college Jaipur (India) from 2005 to 2017 for age, gender, site of occurrence, histopathological pattern and treatment mode were reviewed. The published case reports of oral lipomas reported in Indian patients from 1976 - 2017 also reviewed through pubmed by using MeSH word; oral lipoma and combined the data with the data of present study to analyze the prevalence and histopathological characteristic of oral lipomas in Indian population.

**Results:** Total of 23 (14 males and 9 females) cases included in the study. The mean age was 34.3 years (range 17 - 71). The specific sites involved were buccal mucosa (n = 9) Tongue (n = 5) buccal vestibule (n = 2) Lip (n = 3) Floor of mouth (n = 1), palate (n = 2) and retro molar pad (n = 1). Histopathological examination revealed 11 cases were diagnosed as simple lipoma, 6 cases were fibrolipoma, 2 cases were angiolipoma, 1 case each of osteolipoma, myxolipoma, angiomyxolipoma and hibernoma. All cases treated with surgical excision only one case showed radiographical sign. This data was combined with the data of published cases (pubmed) of oral lipoma in Indian population.

**Conclusion:** Oral lipomas are rare neoplasms of oral cavity; only 49 published cases have been found from 1976 - 2017 in Indian population. Oral lipoma should be considered as a differential diagnosis of oral soft tissue swelling. Surgical excision is the treatment of choice for all such tumors.

**Keywords:** Oral lipoma, Intra oral lipoma, Indian population, Prevalence, Adipocytes, Histopathological pattern

## INTRODUCTION

Lipomas are commonest tumors in humans; while their occurrence in oral cavity is exceedingly rare (4.4 % of all benign oral soft tissue tumors). (1) Their aetiology and pathogenesis remain unclear, although mechanical, endocrine and inflammatory influences have been reported. (2) Lipomas are usually soft, well circumscribed, painless and slow growing tumors. Intra - orally commonest sites are buccal mucosa and tongue. (3)

Histologically, lipomas are classified as simple lipoma or variants such as fibrolipoma, spindle cell lipoma, intramuscular or infiltrating lipoma, angiolipoma, salivary gland lipoma (sialolipoma), pleomorphic lipoma, myxoid and atypical lipomas. (4) Among all these subtypes myxolipomas and angiolipomas are very rare in oral cavity. (5) Previous epidemiologic studies pertaining to the prevalence of oral lipomas in Indian population provided a very little information. Hence the present study was aimed to describe the clinical and histological behaviour of oral lipomas in an Indian population. We believe that the description of clinical and histological features of these rare tumors allow a better understanding of the biological behaviour diagnosis and treatment.

## MATERIALS AND METHODS

Present study consisted of 2714 biopsy specimen came to the department of Oral pathology and microbiology, N.I.M.S dental college, Jaipur, (India) for histopathological diagnosis between may 2005 to may 2017. The 2714 specimens yielded 23 cases diagnosed as oral lipoma. These 23 cases were reviewed retrospectively for patient age, gender, tumor site, clinical features, treatment and treatment outcome. Histopathological analysis was done by review of hematoxylin and eosin stained slides of the samples by a second oral pathologist for the confirmation of diagnosis. In addition we reviewed all published cases from 1976 to 2017 reported in Indian patients found in pubmed by using MeSH word oral lipoma. We combined the results of our cases with the published cases to find out the prevalence of oral lipomas in Indian population pertaining to histopathological pattern, tumor site, age, gender and treatment modality.

## RESULTS

Oral lipomas were diagnosed in 23 (0.84%) of 2714 lesion retrieved from the archives of Oral pathology and microbiology in the time frame of 12 years. The mean age was 34.3 years with

Dept of Oral Pathology and Microbiology  
NIMS Dental College, Jaipur<sup>1</sup>

Correspondence: Dept of Oral Pathology and Microbiology  
NIMS Dental College, Jaipur<sup>1</sup>

Email ID = dr.manasbajpai@gmail.com

Received: 26.12.2015, Accepted: 23.01.2016

**Table 1: Clinical and histopathological finding of our 16 institutional cases.**

Case	Age	Gender	Site	Histopathological type
1	51	M	Tongue	Angiomyxolipoma
2	12	F	Lip	Simple lipoma
3	64	F	Palate	Simple lipoma
4	19	M	Buccal mucosa	Fibrolipoma
5	39	M	Buccal mucosa	Simple lipoma
6	34	M	Tongue	Hibernoma
7	20	M	Retromolar pad	Simple lipoma
8	53	F	Buccal mucosa	Angiolipoma
9	34	M	Buccal mucosa	Simple lipoma
10	29	M	Buccal vestibule	Simple lipoma
11	20	F	Tongue	Simple lipoma
12	48	M	Buccal mucosa	Fibrolipoma
13	71	F	Palate	Osteolipoma
14	30	M	Lip	Simple lipoma
15	17	F	Tongue	Fibrolipoma
16	52	M	Buccal mucosa	Fibrolipoma
17	57	M	Tongue	Angiolipoma
18	52	F	Buccal mucosa	Fibrolipoma
19	34	M	Floor of mouth	Simple lipoma
20	39	F	Buccal vestibule	Simple lipoma
21	47	M	Lip	Fibrolipoma
22	22	M	Buccal mucosa	Myxolipoma
23	54	F	Buccal mucosa	Simple lipoma

the age range of 17 - 71 years. Out of these patients 14 (60.8%) were males and 9 (39.1%) were females. The most common intra oral site was buccal mucosa 9 (43.4%) followed by tongue 5 (21.7%) lip 3(13 %) buccal vestibule 2(8.6 %) floor of mouth 1(4.3%), palate 1 (4.3%) and retro molar pad 1 (4.3%). (Table 1) Radiographically, only one case showed a patchy radiopacity and was diagnosed as osteolipoma. Histopathological analysis revealed following subtypes. Simple lipoma 11 (47.8%) followed by fibrolipoma 6(26 %) angiolipoma 2(8.6 %) Osteolipoma 1 (4.3%) myxolipoma 1 (4.3%), angiomyxolipoma 1(4.3 %) and hibernoma 1(4.3%). All the cases were treated by surgical excision. None of the cases showed recurrence.

An exhaustive literature search comprising the period between 1976 and 2017 revealed 49 cases of oral lipoma reported in Indian patients. The first case of oral lipoma in an Indian patient was reported in 1976 (6). We could not find the complete details of three cases (Table 2). The mean age was 43.06 years with the age range of 6 - 71 years. 25 cases were reported in males and 21 cases were reported in females.

**Table 2: Clinical and histopathological findings of 37 cases of oral lipoma published in English literature from 1976 - 2015 reported in Indian population.**

Case	Age	Gender	Site	Histological type	Author
1	24	F	Buccal mucosa	Spindle cell (pleomorphic lipoma)	Ranganathan K et al (8)
2	51	M	Tongue	Angiomyxolipoma	Bajpai M et al (9)
3	90	F	Buccal mucosa	Angiolipoma	Dahanala S et al (10)
4	28	F	Floor of mouth	Angiolipoma	Bhuyan KS et al (11)
5	55	F	Retromolar trigone	Osteolipoma	Seelam S et al (12)
6	34	M	Tongue	Hibernoma	Bajpai M et al (13)
7	60	M	Buccal vestibule	Simple lipoma	Mehendiratta M et al (14)
8	32	M	Mucogingival Junction	Simple lipoma	Sharma G et al (15)
9	38	F	Buccal mucosa	Osteolipoma	Raviraj J et al (16)
10	55	F	Palate	Angiolipoma	Chandrasekaran D et al (17)
11	42	F	Palate	Simple lipoma	Bakshi SS et al (18)
12	63	M	Tongue	Simple lipoma	Baonerkar HA et al (19)
13	20	F	Floor of mouth	Osteolipoma	Raghunath V, Manjunatha BS. (20)
14	19	F	Buccal mucosa	Angiolipoma	Shahi AK et al.(21)
15	35	F	Gingiva	Fibrolipoma	Pereira T et al (22)
16	53	M	Palate	Osteolipoma	Bajpai M et al (23)
17	35	M	Tongue	Chondrolipoma	Raj V et al.(24)
18	6	F	Lower lip	Chondrolipoma	G K, PJ Y (25)
19	72	M	Floor of mouth	Simple lipoma	Raj AA et al (26)
20	13	F	Buccal mucosa	Simple lipoma	Daryani D, Gopakumar R. (27)
21	77	M	Labial sulcus	Simple lipoma	Kumar LKS et al. (28)
22	37	M	Palate	Simple lipoma	Pattipati S et al. (29)
23	53	F	Buccal vestibule	Simple lipoma	A RK et al. (30)
24	33	M	Buccal mucosa	Angiolipoma	Shah VS et al (31)
25	75	M	Tongue	Simple lipoma	Chandak S et al (32)
26	NA	NA	Buccal mucosa	NA	Shah KM. (33)
27	60	M	Tongue	Simple lipoma	Magadum D et al. (34)
28	35	F	Buccal mucosa	Simple lipoma	Agarwal R et al. (35)
29	27	F	Buccal mucosa	Simple lipoma	Agarwal R et al. (35)
30	58	M	Buccal mucosa	Spindle cell lipoma	Chandrashekar P et al. (36)
31	10	F	Buccal mucosa	Fibrolipoma	Khubchandani M et al (37)
32	9	F	Upper lip	Angiolipoma	Sah K et al .(38)
33	54	M	Labial mucosa	Simple lipoma	Kaur R et al (39)
34	52	M	Buccal mucosa	Simple lipoma	Kaur R et al (39)
35	55	M	Buccal mucosa	Simple lipoma	Kaur R et al (39)

36	75	M	Buccal mucosa	Fibrolipoma	Manjunatha BS et al.(40)
37	55	M	Buccal mucosa	Fibrolipoma	Manjunatha BS et al.(40)
38	70	M	Soft palate	Fibrolipoma	Manjunatha BS et al.(40)
39	6	M	Buccal mucosa	Simple lipoma	Venkateswarlu M et al (41)
40	48	F	Buccal vestibule	Fibrolipoma	Kumaraswamy S et al (42)
41	30	M	Buccal mucosa	Fibrolipoma	Kumaraswamy S et al (42)
42	45	M	Palate	Simple lipoma	Kumaraswamy S et al (42)
43	60	M	Buccal vestibule Tongue	Simple lipoma	Kumaraswamy S et al (42)
44	36	F	Tongue	Chondrolipoma	Goel G et al (43)
45	34	F	Tongue	Simple lipoma	Srinivasan K et al (44)
46	NA	NA	Tongue	Myxolipoma	Rajan R et al (45)
47	NA	NA	Floor of mouth	Lipoma	Khanna JN, Sarma SV. (46)
48	50	F	Tongue	Simple lipoma	Saxena S et al (47)
49	55	M	Tongue	Intramuscular	Garg M et al (48)

The most common intra oral site was buccal mucosa 17 (34.6%) followed by Tongue 12(24.4%) palate 6 (12.2%) floor of mouth 4(8.1%) lip 3(6.1%) buccal vestibule 4(8.1%) gingiva 2(4%) labial sulcus 1(2 %).

Only one case presented as painful swelling. (7) Histopathologically commonest type was found to be simple lipoma 22 (44.8%) followed by fibrolipoma 7 (14.2%) angiolipoma 6(12.2%) chondrolipoma 3(6.1%) osteolipoma 4(8.1%) myxolipoma 1(2%) intramuscular 1(2 %) spindle cell lipoma 2(4 %) angiomyxolipoma 1(2%) and hibernoma 1 (2%). All the cases were treated by surgical excision; recurrence was not reported in any case. After combining the cases reported in our department with the cases of oral lipoma reported in Indian patients the following results were found. (Table 3).

**Table 3: Combined features of institutional cases and published cases in English literature reported in Indian patients. (BM -Buccal mucosa, FOM - Floor of mouth, Simple - simple lipoma)**

Total	Gender	Mean age	Site	Histological type
72	Male 39 (69) 56.5%	38.6 years	BM 26 (72) 36.1%	Simple 33 (72) 45.8%
			Tongue 17(72) 23.6%	Fibrolipoma 13(72) 18%
			Palate 8(72) 11.1%	Angiolipoma 8(72) 11.1%
			Buccal vestibule 5(72) 6.9%	Osteolipoma 5 (72) 6.9%
	Female 30(69) 43.4%		Lip 5 (72) 6.9%	Chondrolipoma 3(72) 4.1%
			FOM 4 (72) .5.5 %	Myxolipoma 2(72) 2.7%
			Gingiva 1(72) 1.3%	Spindle cell 2(72) 2.7%
			Labial sulcus 1 (72) 1.3%	Intramuscular 1 (72) 1.3%
				Hibernoma 1 (72) 1.3%
				Angiomyxolipoma 1(72) 1.3%

## DISCUSSION

Lipomas are relatively rare mesenchymal tumors of oral cavity (7) Histologically, lipomas are classified as simple lipoma or variants such as fibrolipoma, spindle cell lipoma, intramuscular or infiltrating lipoma, angiolipoma, salivary gland lipoma (sialolipoma), pleomorphic lipoma, myxoid and atypical lipomas. (4) (Table 4)

**Table 4: Histopathological types of lipoma (SN - Serial number) (1,3, 7,14,15,16,21, 47, 48)**

SN	Type	Histological characteristics
1	Simple	Mature adipocytes with abundant clear cytoplasm and eccentric nuclei.
2	Fibrolipoma	Mature adipocyte interspersed in dense fibrous stroma.
3	Myxolipoma	Mature adipocytes with areas of myxoid degeneration.
4	Angiolipoma	Mature adipose tissue interspersed with numerous small vascular channels.
5.	Osteolipoma	Mature adipose tissue with osseous metaplasia
6	Chondrolipoma	Mature adipose tissue with chondroid metaplasia.
7	Spindle cell lipoma	Mature adipocytes with uniform spindle cells in a mucinous and fibrous background.
8	Pleomorphic lipoma	A subtype of spindle cell lipoma that histopathologically shows mature adipocytes with dysplastic spindle cells or pleomorphic giant cells.
9	Myelolipoma	Bone marrow is seen along with mature adipose tissue.
10	Adenolipoma	Isolated ductal or tubular structures scattered throughout mature fat cells.
11	Perineural lipoma	Nerve bundles present along with mature adipocytes.
12	Intramuscular lipoma	Mature adipocytes infiltrate striated muscles.
13.	Hibernoma	Tumor of vestigial brown fat
14	Angiomyxolipoma	Admixture of myxoid areas and highly vascular stroma.

Clinically most of the lipomas presented as a soft tissue painless growth, irrespective of their histological diagnosis and they often masquerade other common neoplastic and reactive growths of oral cavity i.e. peripheral giant cell granuloma, fibroma, pyogenic granuloma etc. (7,16,48)

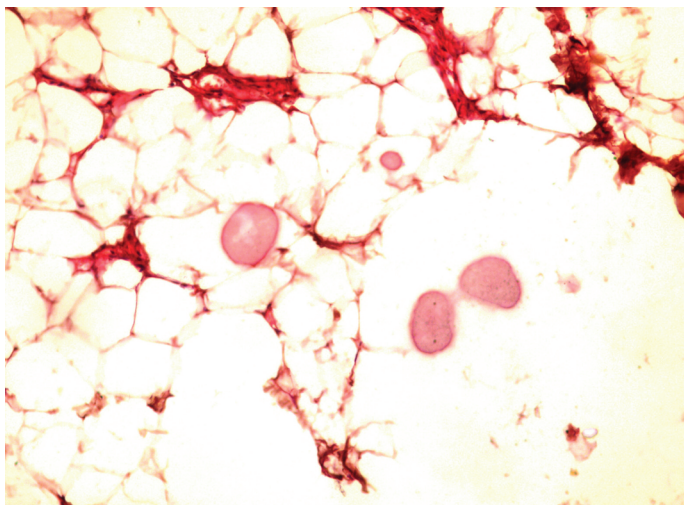
Fregnani et al (49) in their study of 46 cases found most of the cases affected adults with no gender predilection. Intra orally they found buccal mucosa as the most involved site followed by tongue, lips and floor of mouth. Histopathologically they found most cases reported as simple lipomas followed by fibrolipoma, intramuscular lipomas, adenolipomas and spindle cell lipomas; however in the study of 125 lipomas of maxillofacial region Furlong et al (1) found a prominent gender predilection with 91 cases affected males. Intra orally; they found the most common affected site as buccal mucosa followed by lip, tongue, palate and floor of mouth. Histopathologically they found the most common diagnosed type was simple lipoma followed by spindle cell, fibrolipoma and chondrolipoma. Studart- Soares Ec et al (50) in their retrospective study of oral lipomas in a Brazilian population found a mean age of affected patient was 53.4 years



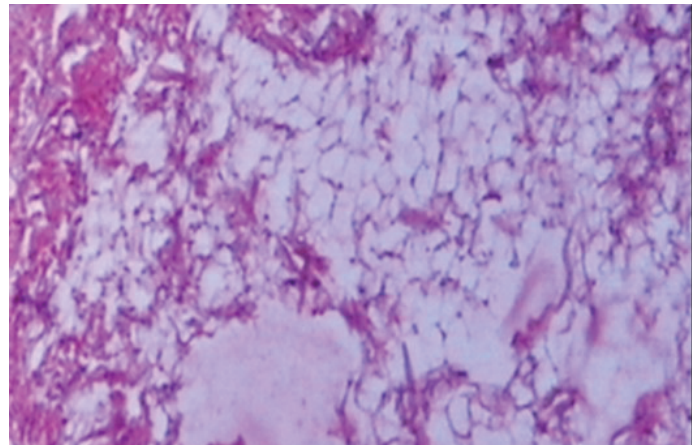
with slight male predilection. Intra orally the commonest site was buccal mucosa and histopathologically; the commonest diagnosed type was found to be simple lipoma.

Present study was an institutional retrospective study carried out in the department of Oral pathology and microbiology, NIMS Dental College. This study was done to analyze the cases of oral lipoma clinically and histopathologically in an Indian population. In addition the cases of oral lipomas reported in Indian patients also reviewed and combined with the present study in order to find out the prevalence, clinical and biological behaviour of oral lipomas in Indian population. Present study comprised of 53 cases of oral lipoma (16 institutional + 37 published) revealed the mean age of affected patient was 41.9 years which is contrary to the studies of fregnani et al and Studart- Soares Ec et al. A male gender predilection (58%) was found. Intraorally the commonest site was found to be buccal mucosa which favours earlier studies. Only one cases of osteolipoma of palate showed a patchy radiopacity(51, 52).

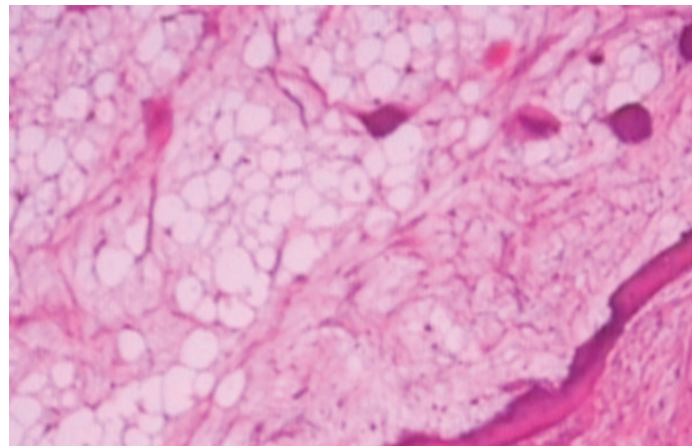
Histopathologically the commonest type of lipoma was found to be simple lipoma. (Figure 1) followed by fibrolipoma (Figure 2) angioliipoma, osteolipoma (figure 3) chondrolipoma, myxoliipoma, spindle cell lipoma hibernoma, intramuscular lipoma and angiomyxoliipoma. Hibernoma is the rarest type of lipoma found in oral cavity with only 1 published case so far. Few variants of lipoma i.e. myxoliipoma,hibernoma spindle cell lipoma may mimic liposarcoma although with the absence of lipoblasts the possibility of malignancy can be ruled out. The treatment of choice is surgical excision and none of the cases showed recurrence.



**Figure 1:** Simple lipoma: Mature adipocytes with clear cytoplasm (Hematoxylina and eosin stain X10)



**Figure 2:** Fibrolipoma: Mature adipocytes interspersed in dense fibrous connective tissue. (Hematoxylina and eosin stain X10)



**Figure 3:** Osteolipoma: Mature adipocytes with numerous calcified masses (Hematoxylina and eosin stain X40)

## CONCLUSION

Oral lipomas are rare neoplasms. The features of oral lipomas observed in Indian population are similar to those reported in literature. However, the mean age of patient differs. Simple lipoma is the commonest histopathological type, angiomyxoliipoma, hibernoma and intramuscular lipomas are rarest types to be found in Indian population. Clinically buccal mucosa is the commonest site of occurrence. The treatment of choice is surgical excision.

## REFERENCES

1. Furlong MA, Fanburg-Smith JC, Childers EL. Lipoma of the oral and maxillofacial region: Site and subclassification of 125 cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2004; 98:441-50.
2. Aust MC, Spies M, Kall S, et al. Lipomas after blunt soft tissue trauma: Are they real? Analysis of 31 cases. *Br J Dermatol* 2007; 157:92-99.
3. Zhong LP, Zhao SF, Chen GF, Ping FY. Ultrasonographic appearance of lipoma in the oral and maxillofacial region. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2004; 98:738-40.
4. Neville BW, Damm DD, Allen CM, Bouquot JE. *Oral and Maxillofacial Pathology*; 2nd edition: Elsevier publication; 2004.
5. Prado FO, Ito FA, Di Hipólito O Jr, Vargas PA, de Almeida OP, Lopes MA. Pleomorphic lipoma of the face: case report. *Oral Dis.* 2006; 12:73-6.
6. Khanna JN, Sarma SV. Lipoma of the floor of oral cavity (report of case). *J Indian Dent Assoc.* 1976 Feb;48(2):81-5.
7. Bajpai M, Pardhe N. A simplified working classification for the soft tissue swellings of oral cavity. *Cukurova Med J* 2016; 41 (1):198-9.
8. Ranganathan K, Mathew SA, Sreena NS, Lavanya N. Fat Free Pleomorphic Lipoma of Oral Cavity: A Rare Entity. *J clin Diagn Res.* 2017;11(3):ZD01-ZD03. doi:10.7860/JCDR/2017/24609.9357.
9. Bajpai M, Chandolia B, Arora M. Angiomyxoliipoma of tongue.

- J Coll Physicians Surg Pak. 2017 Apr;27(4):252-253. doi: 2600.
10. Dhanala S, Tanneru N. Massive noninfiltrating angiolipoma of the buccal mucosa: Report of an extremely rare case. *J Oral Maxillofac Pathol*. 2017;21(1):129-131. doi:10.4103/jomfp.JOMFP\_62\_16.
  11. Bhuyan SK, Bhuyan R, Debta P, Debta FM. Non-Infiltrating Angiolipoma of Floor of Mouth-A Rare Case Report and Literature Review. *J clin Diagn Res*. 2017;11(2):ZD03-ZD05. doi:10.7860/JCDR/2017/22407.8964.
  12. Seelam S, Beeram RK. Osteolipoma in the retromolar trigone: A case report and review of literature. *Ann Maxillofac Surg*. 2016;6(2):304-307. doi:10.4103/2231-0746.200349
  13. Bajpai M, Pardhe N. Hibernoma of tongue. A rare case. *J Coll Physicians Surg Pak*. 2016 Dec; 26(12):1003. doi: 2507.
  14. Mehendiratta M, Jain K, Kumra M, Manjunatha BS. Lipoma of mandibular buccal vestibule: a case with histopathological literature review. *BMJ Case Rep*. 2016 Aug 3; 2016. pii: bcr2016215586. doi: 10.1136/bcr-2016-215586.
  15. Sharma G, Jain K, Nagpal A, Baiju CS. A rare presentation of lipoma on mandibular mucogingival junction. *J Indian Soc Periodontol*. 2016; 20(2):199-202. doi:10.4103/0972-124X.170827.
  16. Raviraj J, Kumar-Bokkasam V, Suresh D, Venkata S. "Osteolipoma of buccal mucosa: Case report and literature review." *J Clin Exp Dent*. 2016;8(2):e214-e218. doi:10.4317/jced.52803
  17. Chandrasekaran D, Chinnaswami R, Narasimhan M, Kumar AEN, Natarajan P. Non Infiltrating Angiolipoma of the Palate in Geriatric Patient: A Case Report with Review of Literature. *J Clin Diagn Res*. 2016;10(1):ZD01-ZD02. doi:10.7860/JCDR/2016/16634.7032.
  18. Bakshi SS, Priya M, Coumare VN, Vijayasundaram S, Karanam L. A common tumor in an uncommon location: Lipoma of the palate. *Ann Maxillofac Surg*. 2015;5(2):237-239. doi:10.4103/2231-0746.175761.
  19. Baonerkar HA, Vora M, Sorathia R, Shinde S. The lipoma of tongue - A rare site for a tumor: Case report and review of the literature. *Indian J Dent*. 2015; 6(4):207-210. doi:10.4103/0975-962X.168520.
  20. Raghunath V, Manjunatha BS. Osteolipoma of floor of the mouth. *BMJ Case Rep*. 2015 Jun 25; 2015. pii: bcr2015209883. doi: 10.1136/bcr-2015-209883.
  21. Shahi AK, Ash H, Chatterji K, Singh R. Cellular infiltrative angiolipoma of cheek in an infant. *National Journal of Maxillofacial Surgery*. 2014; 5(2):202-205. doi:10.4103/0975-5950.154837.
  22. Pereira T, Shetty S, Sapdhare S, Tamgadge A. Oral fibrolipoma: A rare histological variant . *Indian J Dent Res* 2014; 25:672-4.
  23. Bajpai M, Kumar M, Agarwal D, Agrawal S, Gupta S, Kumar M. Osteolipoma of the palate - An unusual presentation. *Natl J Maxillofac Surg* 2014;5:250-1
  24. Raj V, Dwivedi N, Sah K, Chandra S. Chondrolipoma: Report of a rare intra oral variant with review of histogenetic concepts. *Journal of Oral and Maxillofacial Pathology : JOMFP*. 2014; 18(2):276-280. doi:10.4103/0973-029X.140785.
  25. G K, P J Y. Chondrolipoma of the Lower Lip: A Case Report. *Journal of Clinical and Diagnostic Research : JCDR*. 2014; 8(6):FD07-FD08. doi:10.7860/JCDR/2014/7634.4461.
  26. Raj AA, Shetty PM, Yadav SK. Lipoma of the floor of the mouth: report of an unusually large lesion.: *J Maxillofac Oral Surg*. 2014 Sep;13(3):328-31. doi: 10.1007/s12663-11-0204-2. Epub 2011 Apr 7.
  27. Daryani D, Gopakumar R. A large oral lipoma in a young patient: A rare combination. *Contemporary Clinical Dentistry*. 2014;5(2):236-239. doi:10.4103/0976-237X.132363.
  28. Kumar LKS, Kurien NM, Raghavan VB, Menon PV, Khalam SA. Intraoral Lipoma: A Case Report. *Case Reports in Medicine*. 2014; 2014:480130. doi:10.1155/2014/480130.
  29. Pattipati S, Kumar MN, Ramadevi, Kumar BP. Palatal Lipoma: A Case Report. *Journal of Clinical and Diagnostic Research : JCDR*. 2013; 7(12):3105-3106. doi:10.7860/CDR/2013/7886.3682.
  30. Ravi Kiran A, Purnachandrarao Naik N, Samatha Y, Vijay Kumar A, Kalyan Kumar D. Intraoral lipoma: a rare case report and review of literature. *Journal of clinical and diagnostic research: JCDR*. 2013 Dec;7(12):3090.
  31. Shah VS, Harish M, Patel JR, Shah N. Infiltrating angiolipoma of the cheek. *BMJ Case Rep*. 2013 Sep 6; 2013. pii: bcr2013200041. doi: 10.1136/bcr-2013-200041.
  32. Chandak S, Pandilwar PK, Chandak T, Mundhada R. Huge lipoma of tongue. *Contemporary Clinical Dentistry*. 2012;3(4):507-509. doi:10.4103/0976-237X.107457.
  33. Shah KM. Twin pedunculated intraoral submucosal lipoma. *BMJ Case Reports*. 2013; 2013:bcr2013009774. doi:10.1136/bcr-2013-009774.
  34. Magadum D, Sanadi A, Agrawal JM, Agrawal MS. Classic tongue lipoma: a common tumour at a rare site. *BMJ Case Reports*. 2013;2013:bcr2012007987. doi:10.1136/bcr-2012-007987.
  35. Agarwal R, Kumar V, Kaushal A, Singh RK. Intraoral lipoma: a rare clinical entity. *BMJ Case Reports*. 2013; 2013:bcr2012007889. doi:10.1136/bcr-2012-007889.
  36. Chandrashekhar P, Jose M, Dadhich M, Chatra L, Holla V. Spindle cell lipoma: a case report and review of literature. *Kathmandu Univ Med J (KUMJ)*. 2012 Apr-Jun; 10(38):92-5.
  37. Khubchandani M, Thosar NR, Bahadure RN, Baliga MS, Gaikwad RN. Fibrolipoma of buccal mucosa. *Contemporary Clinical Dentistry*. 2012; 3(Suppl1):S112-S114. doi:10.4103/0976-237X.95119.
  38. Sah K, Kadam A, Sunita J, Chandra S. Non-infiltrating angiolipoma of the upper lip: A rare entity. *Journal of Oral and Maxillofacial Pathology : JOMFP*. 2012; 16(1):103-106. doi:10.4103/0973-029X.92983.
  39. Kaur R, Kler S, Bhullar A. Intraoral Lipoma: Report of 3 Cases. *Dental Research Journal*. 2011; 8(1):48-51. Manjunatha BS, Pateel GSD, Shah V. Oral Fibrolipoma-A Rare Histological Entity: Report of 3 Cases and Review of Literature. *Journal of Dentistry (Tehran, Iran)*. 2010;7(4):226-231.
  41. Venkateswarlu M, Geetha P, Srikanth M. A rare case of intraoral lipoma in a six year-old child: a case report. *International Journal of Oral Science*. 2011; 3(1):43-46. doi:10.4248/IJOS11008.
  42. Kumaraswamy S, Madan N, Keerthi R, Shakti S. Lipomas of oral cavity: case reports with review of literature. *J Maxillofac Oral Surg*. 2009;8(4):394-97.
  43. Goel G, Khadilkar UN, Kumar S. Chondrolipoma of tongue. *Kathmandu Univ Med J*. 2008;6:505-7.
  44. Srinivasan K, Hariharan N, Parthiban P, Shyamala R. Lipoma of tongue - A rare site for a rare site for a common tumour. *Indian Journal of Otolaryngology and Head & Neck Surgery*. 2007; 59(1):83-84. doi:10.1007/s12070-007-0027-0.
  45. Rajan R, Reddy S, Venugopal N, Rajan R. Myxoid lipoma of the tongue: a case report. *Indian J Cancer*. 1993 Dec; 30(4):199-201.
  46. Khanna JN, Sarma SV. Lipoma of the floor of oral cavity (report of case). *J Indian Dent Assoc*. 1976 Feb;48(2):81-5.
  47. Saxena S, Jahagirdar PB, Chidananda DB. Infiltrating Oral Lipoma a Rare Variant. *Journal of Cutaneous and Aesthetic Surgery*. 2014; 7(4):236-237. doi:10.4103/0974-2077.150789.
  48. Garg M, Aggarwal R, Sethi D, Gupta D, Sen R. Intramuscular Lipoma of Tongue. *Journal of Cutaneous and Aesthetic Surgery*. 2011; 4(2):152-153. doi:10.4103/0974-2077.85047.
  49. Fregnani ER, Pires FR, Falzoni R, Lopes MA, Vargas PA. Lipomas of the oral cavity: clinical findings, histological classification and proliferative activity of 46 cases. *Int J Oral Maxillofac Surg*. 2003; 32:49-53.
  50. Studart-Soares EC, Gurgel-Costa FW, Bitu-Sousa F, Alves AP, Osterne RL. Oral lipomas in a Brazilian population: A 10-year study and analysis of 450 cases reported in the literature. *Med Oral Patol Oral Cir Bucal* 2010.
  51. Bajpai M, Pardhe N. Myxolipoma of oral cavity. *Univ Res J Dent* 2016; 6:134-6.
  52. Bajpai M, Kumar M, Kumar M, Agarwal D. Pigmented Lesion of Buccal Mucosa. *Case Rep Med* 2014;2014:936142.