



## **Mucous Retention Cyst – Review of Literature and a Case Report**

**Sonal Grover<sup>1\*</sup>, Manpreet Singh Dev<sup>2</sup>, Jitinder Batra<sup>3</sup>,  
Rohan Talathi<sup>4</sup>, Saurabh Singh<sup>5</sup> and Ashish Gupta<sup>6</sup>**

<sup>1</sup>Department of Oral Pathology and Microbiology, Christian Dental College, CMC, Ludhiana, 141008, India.

<sup>2</sup>Christian Dental College, CMC, Ludhiana, 141008, India.

<sup>3</sup>Department of Oral and Maxillofacial Surgery, Post Graduate Institute of Dental Sciences, Rohtak, India.

<sup>4</sup>Department of Pedodontics and Preventive Dentistry, M.A. Rangoonwala College of Dental Sciences and Research Center, Pune, 411001, India.

<sup>5</sup>Tooth Friendly Dental Clinic, Balrampur, U.P., India.

<sup>6</sup>Department of Oral Medicine and Radiology, Institute of Dental Sciences, Sehora, Jammu and Kashmir, India.

### **Authors' contributions**

*This work was carried out in collaboration among all authors. Authors SG and MSD designed the study and wrote the protocol. Authors SG, MSD, JB and RT collected all data and wrote the first draft of the manuscript. Authors MSD, SS and AG did the literature search and also wrote part of the manuscript. All authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/JAMPS/2016/25247

#### Editor(s):

(1) Hamdy A. Sliem, Internal Medicine, Suez Canal University, Egypt and College of Dentistry, Qassim University and EL-Jouf University, Saudi Arabia.

(2) Jinyong Peng, College of Pharmacy, Dalian Medical University, Dalian, China.

#### Reviewers:

(1) Divya Gopinath, University of Hong Kong, China.

(2) Laura Priscila Barboza De Carvalho, Federal University of Rio Grande Do Norte, Brazil.

(3) Anonymous, NIMS Dental College, Jaipur, India.

(4) Sucheta Bansal, HPU University, Shimla, India.

Complete Peer review History: <http://sciencedomain.org/review-history/14393>

**Case Report**

**Received 23<sup>rd</sup> February 2016**

**Accepted 18<sup>th</sup> April 2016**

**Published 29<sup>th</sup> April 2016**

### **ABSTRACT**

Mucocele is a mucin filled cavity and is one of the most common salivary gland pathology. It arises either due to severance of a duct or due to an obstruction to the salivary flow. In the former case, the more appropriate term is mucous extravasation phenomenon and the latter is called mucous

\*Corresponding author: E-mail: [sonalgrvr@yahoo.com](mailto:sonalgrvr@yahoo.com);

retention cyst. We present a case of mucous retention cyst in 21-year-old boy who presented to Dental Out Patient Department with a chief complaint of swelling in his lower lip. With this case report we also attempt to review and highlight the differences between the two entities with a common name.

*Keywords: Mucocele; mucous retention cyst; mucous extravasation phenomenon.*

## 1. INTRODUCTION

'Mucocele' literally means a cavity filled with mucin. It is the most common non-neoplastic salivary gland pathology which usually presents as soft-fluctuant nodular swelling and is generally asymptomatic. It's a common term for two separate entities with different etiology and different histology but with almost a similar clinical presentation, i.e. mucous extravasation phenomenon and mucous retention cyst [1-3]. We present a case of mucous retention cyst with the intent of discussing the significant differences between the two similar but not identical pathological entities.

## 2. CASE REPORT

A 21-year-old male patient reported to the Dental Out Patient Department with the chief complaint of a swelling in his lower lip since 2 months. Intra-oral examination showed a bluish nodule, of approximately 2.5 cm in diameter, covered by a normal mucosa (Fig. 1). On palpation, the lesion was compressible, fluctuant and painless. His oral hygiene was satisfactory, though he had caries in 36 and 37. The cervical lymph nodes were not palpable. He had no other medical disorder. History of present illness revealed that patient felt a nodular pea-sized swelling on inner side of his lip with his tongue around two months back. He ignored it for the initial few weeks till the time he noticed that the swelling has progressively increased and there is a significant change in the size of the lesion at the time of meals. He did not commit to any incident of trauma or lip biting in that area in the recent past. Based on clinical examination, a provisional diagnosis of Mucocele, with a differential diagnosis of Lipoma was made. After obtaining the patient's consent an excisional biopsy was done (Fig. 2) and the specimen was sent for histopathological examination. At the time of grossing, when the specimen was cut into two halves, a mucinous gel-like fluid was seen on the cut surface. The histopathological examination of the specimen revealed a cystic cavity lined by ductal epithelium and supported by fibrovascular

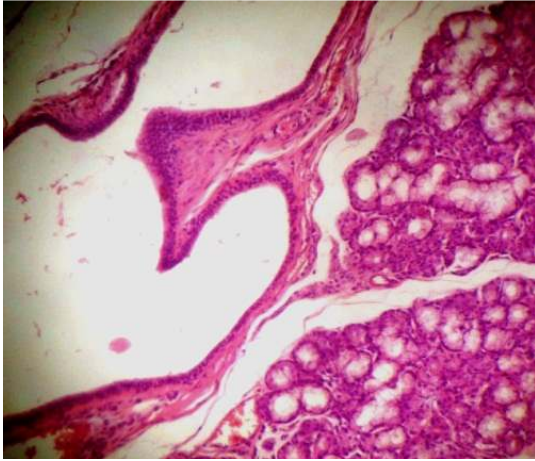
connective tissue capsule (Fig. 3). The lining epithelium was comprised of stratified squamous epithelium (Fig. 4). The lumen showed lightly stained mucin with interspersed mucinophages. Numerous mucous and serous acini along with salivary gland ducts were also seen in the connective tissue. Connective tissue also revealed moderately dense chronic inflammatory cell infiltrate comprised of plasma cells and lymphocytes. The final diagnosis was given as mucous retention cyst. The healing of the surgical site was uneventful. After a follow-up of two years, patient did not show any sign of recurrence.



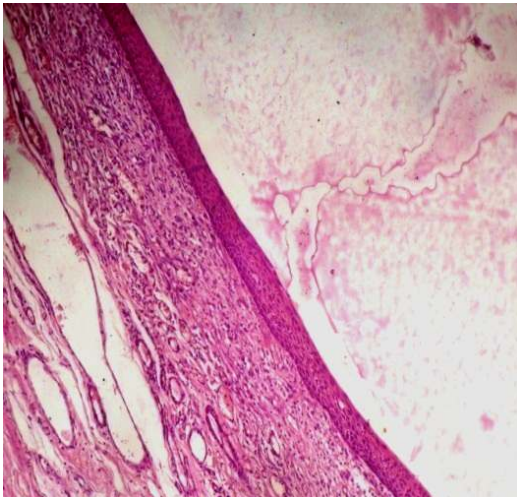
**Fig. 1. Intra-oral photograph showing the nodular swelling on the lip**



**Fig. 2. Photograph showing the excised lesion in toto**



**Fig. 3. Photomicrograph showing the cystic cavity lined by ductal epithelium and supported by fibrovascular connective tissue with numerous glandular acini (H&E, 10x)**



**Fig. 4. Photomicrograph showing the cystic lining comprised of stratified squamous epithelium (H&E, 10x)**

### 3. DISCUSSION

Mucocoele is one of the most common lesion of the oral mucosa, which results from the accumulation of mucin. The two etiological factors for Oral Mucocoele (OM) given by Yamasoba et al. [4] are traumatism and obstruction of salivary gland ducts. Most of the mucocoeles are superficial and are very rarely larger in diameter. As this pathology is a result of pooling of mucin, the size of the lesion is fluctuating owing to different rates of secretion of mucin from the involved salivary gland. It usually

increases at the time of meals and the decrease in size may be due to rupture of the lesion and subsequent mucin accumulation or re-absorption of saliva deposits. OMs can be seen anywhere in the oral cavity, some clinicians believe lip as the most common site for extravasation mucocoele and buccal mucosa for the retention cyst. Ranulas are the OMs located on the floor of mouth and the name is derived from the typical swelling that resembles the air sacs of the frog - 'rana tigrina'. The highest incidence of OMs is seen in the second decade of life, although it is believed to affect patients of all ages. Teenagers and children are most commonly affected by mucocoeles. Till date, there is no definite sex predilection found for this pathology. The color of mucocoeles ranges from deep blue to the normal color of oral mucosa (pink). The deep blue color results from tissue cyanosis, vascular congestion associated with the stretched overlying tissue and the translucency of the accumulated fluid beneath. The variation in color depends on the size of the lesion, its proximity to the mucosal surface and the elasticity of the overlying tissue [5-8].

Literatures showed oral habits such as lip biting/sucking is one of the etiologic factors for mucocoele. Radiographic evaluation is needed to rule out if sialoliths are considered as contributing factor in the formation of oral mucocoeles. Palpation can be helpful for a correct differential diagnosis. Lipomas and tumors of minor salivary glands present no fluctuation while cysts, mucocoeles, abscess, and hemangiomas show fluctuation [1,2].

The appearance of mucocoeles is pathognomonic and location of the lesion, history of trauma, rapid appearance, and variations in size, bluish-color, and the consistency are the important factors to be considered before the clinical diagnosis is made. The histopathological examination is warranted to rule out salivary gland neoplasm, as small sized mucoepidermoid carcinomas can present with a similar picture. Moreover, the final diagnosis of mucous extravasation phenomenon or mucous retention cyst can only be made after histopathological examination. The extravasation mucocoele presents with a cavity filled with mucin and enclosed by a band of compressed fibrovascular connective tissue capsule. Glandular structures are important components of the capsule. At times, it is not so uncommon to find a severed or intact duct in direct communication with the mucin pool; such a duct is called as 'feeder duct'. The histopathology of

retention cyst is almost the same except for one significant difference of epithelium lining the cystic cavity. The source of this cystic lining in most of the cases is ductal epithelium, as quite often it is seen that a dilated duct due to an obstruction (most commonly sialolith) ultimately transforms into a cystic cavity lined by ductal epithelium. It is this cystic lining which justifies the retention cyst as a true cyst and the extravasation phenomenon without a true cystic lining epithelium is considered as a pseudocyst. Inflammatory infiltrate can be commonly seen in both the entities. Treatment for both these entities warrants surgical excision. Recurrence rate is found to be very low in cases where the entire gland is removed. Malignant transformation has not been reported till date [9-11].

#### 4. CONCLUSION

Thus 'Mucocele' is a common term for two separate entities i.e. mucous extravasation phenomenon and mucous retention cyst. Although both these entities present with a similar clinical picture and treatment protocol, there is a considerable difference in their etiopathogenesis and histological features.

#### ETHICAL APPROVAL

It is not applicable.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. More CB, Bhavsar K, Varma S, Tailor M. Oral mucocele: A clinical and histopathological study. J Oral Maxillofac Pathol. 2014;18(Suppl S1):72-7.
2. Nallasivam KU, Sudha BR. Oral mucocele: Review of literature and a case report. J Pharm Bioall Sci. 2015;7(Suppl S2):731-3.
3. Neville B, Damn DD, Allen CM, Bouquot JJ. Oral and maxillofacial pathology. 2<sup>nd</sup> ed Philadelphia: WB. Saunders. 2002;389-92.
4. Yamasoba T, Tayama N, Syoji M, Fukuta M. Clinicostatistical study of lower lip mucoceles. Head Neck. 1990;12:316-20.
5. Hayashida AM, Zerbinatti DC, Balducci I, Cabral LA, Almeida JD. Mucus extravasation and retention phenomenon: A 24-year study. BMC Oral Health. 2010;10:15.
6. Jani DR, Chawda J, Sundaragiri SK, Parmar G. Mucocele-A study of 36 cases. Indian J Dent Res. 2010;21:337-40.
7. Eveson JW. Superficial mucoceles: Pitfall in clinical and microscopic diagnosis. Oral Surg Oral Med Oral Pathol. 1988;66:318-22.
8. Bagán Sebastián JV, Silvestre Donat FJ, Peñarrocha Diago M, Milián Masanet MA. Clinico-pathological study of oral mucoceles. Av Odontoestomatol. 1990; 6(7):389-91, 394-5.
9. López-Jornet P, Bermejo-Fenoll A. Point of care: What is the most appropriate treatment for salivary mucoceles, which is the best technique for this treatment? J Can Dent Assoc. 2004;70:484-5.
10. Delbem AC, Cunha RF, Vieira AE, Ribeiro LL. Treatment of mucus retention phenomenon in children by the micro-marsupialization technique: Case reports. Pediatr Dent. 2000;22:155-8.
11. Yadav A, Grover H, Yadav P, Nanda P. A novel technique for the treatment of mucocele: A case report. Arch Dent Sci. 2011;2:33-5.

© 2016 Grover et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:  
<http://sciencedomain.org/review-history/14393>