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Surgical management of mucous extravasation cyst in lower lip: A case series

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Abstract

A mucous extravasation cyst also called as mucocele. Which is usually painless swelling but sometime they may cause difficulty in speaking and chewing. It mainly occurs in lower lip and it may also occur in tongue, soft palate, labial mucosa, retromolar pad and buccal mucosa. Lip biting and trauma to the lips are main cause for the lesion. It can be diagnosed clinically and histopathological investigation which further confirms the diagnosis. Here we are reporting a case series of mucocele with Diagnosis, treatment and histopathological findings.

Keywords: Mucocele, Mucous extravasation cyst, Muciphages, Salivary acini.

Introduction

Mucocele can be also called as mucous extravasation phenomenon commonly seen in minor salivary gland lesions which is characterized by asymptomatic single or multiple, spherical, fluctuant nodules. [1] The Latin word mucocele means mucus and cavity. Mucocele is seventeenth most common salivary gland lesion seen in oral cavity. Mucocele are commonly seen in lower lips and buccal mucosa.[2] They are less commonly seen in anterior hard palate and attached gingiva as they do not

have minor salivary glands. Mucocele are formed by secondary rupture of an excretory duct of salivary glands.[3] This results in accumulation of mucous that causes swelling in the affected regions, which maybe painful for certain individuals.

The common etiology being trauma occurred due to sharp teeth, malocclusion, lip biting and injury.[4] The mucocele can create a esthetical or a functional abnormality which requires the correction of the deformity. Sometimes the mucocele can rupture on its own and may not require any treatment. Various treatment modalities like incision and drainage, removal of the cystic lining and granulation tissue can be performed. This case series describes the diagnosis and treatment of mucocele occurred in lower lip.

Case report-1

A 16 years old male patient reported with the chief complaint of swelling in his right lower lip. Patient had a history of trauma to the lip before 1 year and patient has a habit of lip biting. History of presenting illness revealed that it started as a small sized swelling a month back, then the swelling which was gradually increased in size. On clinical examination there was a translucent nodular dome shaped swelling with slight bluish hue in the right side of the lower lip. It was measured of about 2cm ×2cm.

[figure-1]. On palpation it was smooth surfaced, fluctuant and non-tender without bleeding. Final diagnosis was arrived on the basis of history and clinical features such as site, fluctuation, variation in size and its sudden appearance but it has to be confirmed with the histopathological findings. Since the size of the lesion was comparatively large, surgical excision was planned.

Figure 1: pre-operative

Surgical Treatment: Under infiltration local anesthesia, vertical incision was made with 11 numbers BP blade in the center of the Mucocele. The flap was retrieved with the help of artery forceps and tissue holding forceps, then mucocele was completely excised [figure-2] and simple interrupted sutures were placed with absorbable suture material. The excised mucocele was sent for histopathological investigation which further confirms the diagnosis. The patient was recalled after 1month for review [figure-3].

Figure-2: complete excision.

Figure-3: post operative.

Histopathological findings: microscopic features of specimen show the connective tissue stroma with mucin pooling and mucin laden macrophages (mucipahges), granulation tissue with chronic inflammatory cells. Minor salivary acini and ducts are present. There by confirming it as mucocele. Postoperative review after a month revealed a satisfactory healing and the patient was informed about the chances of recurrence.

Case report 2

A 21 years old female patient reported with the chief complaint of swelling in her left lower lip. Patient had a history of lip biting and frequent ulceration for about 3 months. History of presenting illness revealed that it started as a small sized swelling a month back, and then the swelling gradually increased in size. On clinical examination there was a dome shaped translucent nodular swelling with slight bluish hue in the left side of the lower lip. It was measured of about 2cm ×3 cm [figure-4], on palpation it was ovoid with smooth surface, fluctuant and non- tender without bleeding.

Figure 4: pre-operative

Surgical Treatment: Under local anesthesia, vertical incision was made with 15c number BP blade in the center of the swelling. The flap was retrieved with the help of artery forceps and tissue holding forceps, then mucocele was completely excised [figure-5] and simple interrupted sutures were placed with non-absorbable silk suture material. The excised mucocele was sent for histopathological investigation which further confirms the diagnosis. The patient was recalled after 1week for suture removal and then after 1 month for review [figure-6].

Figure 5: complete excision.

Figure 6: post-operative.

Histopathological findings: soft tissue section revealed a cystic cavity surrounded by granulation tissue, comprising collagen bundles, scarce amount of mucin, fibroblasts and endothelial cells. Overlying epithelium is stratified squamous, hyperplastic at places which confirms the diagnosis as Mucocele. Postoperative review done after 1 week,1 month and after 6 months. **[**figure-7]

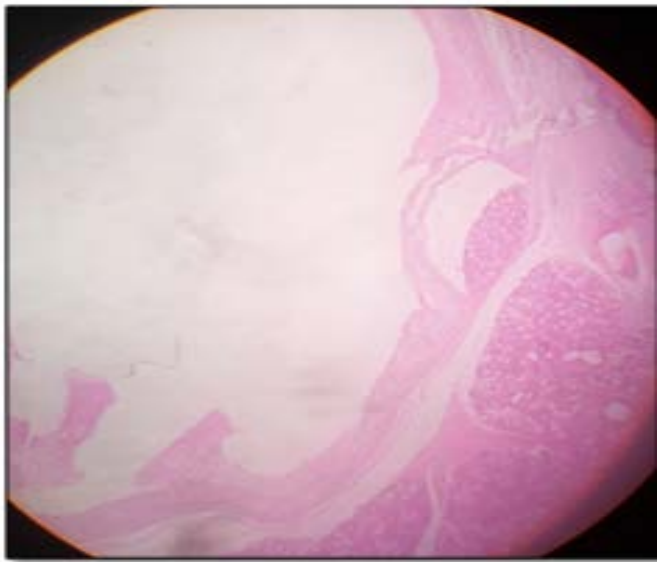

Figure 7: histopathology.

Case Report 3

A 23 years old female patient reported with the chief complaint of swelling in her right lower lip. Patient had a history of lip biting and the presenting illness revealed that it started as a small sized swelling which gradually increased in size with time. On clinical examination there was a dome shaped translucent nodular swelling in the right side of the lower lip. It was measured of about 1cm ×1 cm **[**figure-8], on palpation it was ovoid with smooth surface, fluctuant and non- tender without bleeding.

Figure 8: pre-operative

Surgical Treatment: Under infiltration local anesthesia, vertical incision was made with 15c number BP blade in the center of the swelling. The flap was retrieved with the help of artery forceps and tissue holding forceps, then mucocele was completely excised [figure-9] and simple interrupted sutures were placed with non-absorbable silk suture material. The excised mucocele was sent for histopathological investigation which further confirms the diagnosis. The patient was recalled after 1week for suture removal and then after 1 month for review [figure-10].

Figure 9: complete excision.

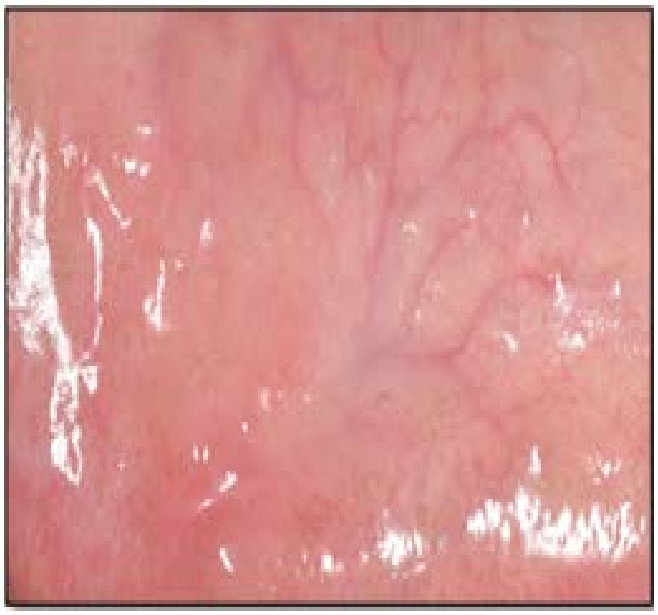

Figure 10: post-operative

Histopathological findings: soft tissue section exhibited stromal tissue with extensive mucin pooling and accumulation of mucin laden histocytes, interspersed with collagen fibers, fibroblasts and a mild chronic inflammatory infiltrate. Minor salivary glands and ducts were observed. Overlying epithelium is stratified squamous exhibiting atrophy. Postoperative review done after 1-week and1 month.

Differential diagnosis: Various conditions or intraoral swellings which can mimick mucocele are as follows:

1.Fibroma,

2.Oral hemangioma

3.Soft tissue abscess

4.Orallymphangioma

5.Salivary duct cyst

6.Lipoma

7.Epidermoid cyst

8.Carcinoma of lip

Discussion

The mucous extravasation cyst is the most common bengin lesion of the salivary gland, generally conceded to be of traumatic origin. Which is usually involves salivary gland and their ducts which is characterized by pooling of mucous in a cavity within the connective tissue due to the rupture of salivary duct or acini and it is not a true cyst since it lacks an epithelial lining.[5] The bluish discoloration is mainly due to the vascular congestion and cyanosis of the tissue above and the fluid accumulation below. The bluish discoloration also depends on the size of the lesion and proximity of lesion to the surface and elasticity of upper tissue.[6]

Among pathological processes affecting the minor salivary glands, mucoceles are commonly seen in children and young adults, probably it is related to the higher frequency of injuries that results in extravasation of saliva to the connective tissue.[7]

According to Althea M Hayashida et al (2010) in a 24-year study, about 75.85% of the cases were diagnosed during the first and second decades of life, 49.42% of them during the second decade of life. Two cases were diagnosed in newborns. Also 60.12% were found to be females, in agreement with various studies showing prevalence of mucocele in women. The most common location of Mucocele were found to be lower Lip (78%). This may be related to the trauma exerted upon the lip, as a result of teeth spatial distribution.[8]

In most cases mucocele ruptures within a few days without any intervention. Recurrence of mucocele occurs when the cyst is not completely removed. The excision of the mucocele can be performed by various methods such as: 1) Surgical excision: complete removal of the cyst with underlying connective tissue. 2)Cry surgery: to deliberate destruction of the tissues by application of extreme cold. Most popular cryogen agent liquid nitrogen is used in temperature of -25ºCto -50ºC (-13ºF to -58ºF). Liquid nitrogen is applied or sprayed. Inflammation will occur 24hours after treatment which further destroys the lesion. 3) Carbon dioxide laser: used to ablate the cyst. The advantages of co_2 layer is minimizes the relapses and complication. 4)Electrocautery: used to excise the cyst completely.

Yagüe-Garcia et al in 2009 compared the results after treatment between scalpel and CO2 laser and concluded that CO2 laser ablation is rapid and simple.[9] Also the conventional technique had postoperative complications and recurrence of the mucocele. Thus, regardless of the technique used, it is important that the excised specimen has to be microscopically examined to confirm the diagnosis.

The importance of diagnosing a mucous extravasation cyst using histopathological examination is helpful in identifying early neoplastic changes which maybe uncommon yet cannot be neglected. Few cases have been reported as of neoplasms in minor salivary glands which has initiated the need to do a histopathological investigation in all cases respectively. Thereby we can prevent the consequences that may lead to morbidity and mortality.

Conclusion

Mucocele is the most common benign lesion occurs in the oral cavity which is self-limiting. Lower lip is commonly affected. Trauma or lip biting is the most common cause for this lesion. It can be diagnosed clinically and confirms with biopsy to rule out with any neoplastic changes. Simple surgical excision is recommended and regular recall the patient for checkup of recurrence of the lesion.

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