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HUGE, 20 YEARS LONG-STANDING MUCOCELE

Oral And Maxillofacial Surgery

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ABSTRACT

Mucocele, which is widely recognized as one of the most prevalent non-malignant masses found in the oral cavity, is considered to be the most common affliction affecting the accessory salivary glands. Although mucoceles typically do not cause pain, they can impede patients' ability to speak and chew, thereby causing discomfort. If left untreated, mucoceles may give rise to complications. Numerous techniques have been documented for the treatment of mucocele; however, a majority of them necessitate expensive equipment and instruments. Excising a substantial and long-standing mucocele without causing harm to nearby vital structures, and without removing the sublingual gland, represents an efficacious conventional surgical approach, leading to reduced patient morbidity and mortality.

KEYWORDS

Mucocele, Minor salivary gland, midline of oral cavity

INTRODUCTION:

Mucocele is a benign cystic lesion, asymptomatic, usually containing saliva in its interior, and caused by disruption of the ducts of minor salivary glands or the presence of calculus (sialolith) inside gland ducts [1]. They can generally be divided into two categories: extravasation and retention.A damaged salivary gland duct and the subsequent spilling into the soft tissue surrounding this gland cause extravasation mucocele. Retention mucocele is caused by a reduction or absence of glandular production caused by obstruction of the salivary gland ducts [2, 3]. Although these cysts can affect people of any age, oral mucocele are most common in people between the ages of 10 and 40 [4]. Additionally, both males and females experience them equally [5, 6]. Lower lip is the most common site of occurrence[7]. However, other sites, including the upper lip and the buccal mucosa, floor of mouth, ventral surface of tongue, palate can also be affected. Most common etiology associated with it are Lip biting (most common cause), tear in the salivary gland, cheek biting, piercings, accidental rupture of a salivary gland, adjacent teeth causing chronic damage [4]. The majority of mucoceles have diameters between 2 and 10 mm. [8].

Several lines of management for mucocele such as surgical excision with scalpel, ablation with carbon dioxide (CO2) and erbium-doped yttrium aluminium garnet(Er:YAG) lasers, marsupialization, and cryosurgery have been proposed in the literature, among which surgical excision remains the most commonly employed technique.

Although several cases regarding the management of mucoceles have been documented in the literature, there is a scarcity of sufficient data on mucoceles that persist for 20 years and attain an unusually large size of 50 mm in diameter. Therefore, the purpose of this paper is to present a case of a 20-year-old mucocele measuring 5x5 cm in size located in the midline of the oral cavity on the floor of the mouth. The mucocele was successfully managed through excision, without the removal of the sublingual gland or causing damage to associated vital structures.

Case Report:

A 27-year-old female patient presented with a swelling located on the floor of the mouth that initially manifested when the patient was 7 years old. The swelling has exhibited a gradual increase in size over a period of 20 years. While initially devoid of pain, it has recently become painful during chewing and speaking over the course of the past month.

Upon examination, a swelling was observed in the midline of the oral cavity, extending to the floor of the oral cavity between the lower second molars on both sides, with dimensions measuring approximately 5×5 cm (see Figure 1).

Fig. 1: Swelling Over The Floor Of The Mouth Measuring Approximately 5x5 Cm

Upon palpation, the swelling demonstrated a soft, compressible, and fluctuant consistency. Aspiration of the swelling resulted in the drainage of purulent fluid, and subsequent analysis revealed a predominance of necrotic tissue, along with scattered inflammatory cells composed of neutrophils, lymphocytes, plasma cells, and macrophages.

Radiographic imaging played a significant role in diagnosing these lesions. Consequently, localization was achieved through both computed tomography (CT) scan and magnetic resonance imaging (MRI), both of which were conducted on the patient. The CT scan identified minute calcification spots within the lesion. To confirm the diagnosis, a facial MRI was performed, revealing a cystic lesion measuring approximately 4.5x3.9x4.3 cm in the sublingual region of the floor of the mouth (see Figure 2).

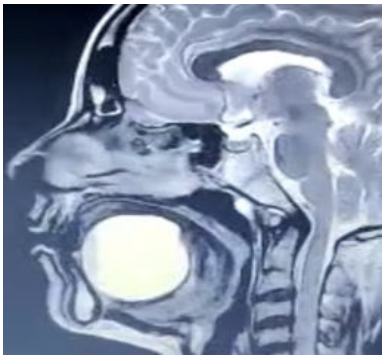

Fig. 2: Mri Scan Depicting A Cystic Lesion Of Approximately 4.5x3.9x4.3 Cm

Based on the results of these investigations, the differential diagnosis included lipoma over the floor of the mouth, plunging ranula, and dermoid cyst.

Surgical excision of the cyst was planned under general anesthesia, with an intraoral approach to the floor of the mouth. Given that the patient's tongue was elevated due to the sublingual swelling, fiberoptic intubation was performed by an anesthesiologist. Special care was taken to preserve the Wharton's duct, along with other vital structures, throughout the procedure. A vertical incision was made over the lesion, extending from the ventral surface of the tongue to the floor of the oral cavity. A meticulous dissection was carried out to prevent any tissue rupture, thereby exposing the cystic mass. It was confirmed that the cyst wall had no connection to the sublingual gland. The cyst was carefully removed in its entirety, along with the cystic content, without extracting the sublingual gland or disrupting the Wharton's duct (see Figure 3).

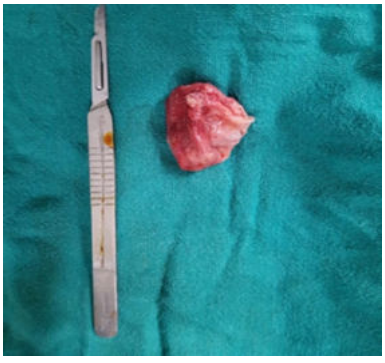

Fig. 3: Surgical Specimen After Excision.

Closure of the incision was accomplished using the buried suture technique (see Figure 4).

Fig. 4: Closure Using Buried Suture Technique.

Particular attention was paid to avoid injuring vital structures within the floor of the mouth. The excised mass was sent for histopathological examination. The histological diagnosis revealed an infected mucocele. A follow-up examination performed 11 months after the procedure demonstrated no evidence of recurrent cyst.

3. DISCUSSION:

The term 'Mucocele' refers to a mucous retention phenomenon of the major and more commonly, the minor salivary glands. They are formed due to the rupture of an excretory duct of a salivary gland and cause an outpouring of saliva into the surrounding tissues. They are always lined with epithelium and are true cysts.

Clinically, mucocelesare usually asymptomatic but sometimes patients complainof pain. Very rarely, it cancause difficulty withswallowing and speech, discomfort, and interference in mastication. It appears as a normalor bluish-colored swelling[9]. The size of mucoceles of minor salivary glands which generally present superficially are very rarely larger than 1.5 cm in diameter. But mucoceles which are found in deeper areas are usually larger in size[10]. Differential diagnoses formucoceles are fibroma, Lipoma, sialolith phlebolith, and salivary gland neoplasm[9]. The midline of the oral cavity or floor of the mouth is also common for developmental, neoclassical, and infectious processes. Neoclassical lesions include lipomas, salivary, neural, and vascular lesions. A hemangioma or lymphangioma in the midline of the oral cavity is rare. If alymphangioma is present,it can expected at birth or developed by age. Dermoid cyst, epidermal cyst, lymphoepithelial cyst, and thyroglossal duct cyst are all potentialdevelopmental conditions that may be considered in the differential diagnosis of mucocele. Abscess of the submandibular gland should be considered in the differential diagnosis of infectiousmucocele[10]. Yamasoba et al. revealed that mucoceleformation is often caused by trauma and obstruction of the salivary gland duct [11]. When the duct is damaged, saliva secretion spills into the surrounding submucosal tissue, leading to inflammation and the accumulation of stagnant mucous [2]. Ata- Ali et al [12]stated that extravasation of mucocele occurs in three phases. In the first phase, there is a spillage of mucus from the salivary duct into the surrounding tissue. During this phase, leucocytes and histocytes are observed. In the second phase, the presence of histocytes, macrophages and giant multinucleated cells which are associated with foreign body reactions, will lead to granulomas formation. In the third phase, a pseudocapsule will form around the mucosa without epithelium due to presence of connective cells. The retention type ofmucocele occurs due to dilation of the major salivary gland duct caused by blockage from asialolith or dense mucosa. To treat a mucocele surgical excision is the most common method. Some studies suggested that the initial cryosurgical approach or intralesional corticosteroid injection in the treatment of these lesions but cases of relapses in these techniques is more [13]. Lacrimal catheters are used to dilate the duct to remove the obstruction of retention type mucoceles [5, 14]. Treatment for retention and extravasation mucocele are the same.Baurmash recommended complete de-roofing of the lesion along its entire periphery to visualize and extract all of the glands present. This procedure is necessary to prevent the lesion from recurring[5]. In cases where there are larger lesions located in the midline of the oral cavity, which serves vital functions such as deglutition and respiration, there is a risk of compromise due to space-occupying lesionsas it is situated in a small with rigid boundaries, which was not encountered in our case.

4. CONCLUSION:

This case report pertained to a substantial mucocelelocated in the midline of the oral cavity. It represented a rare occurrence characterized by the absence of any additional complications and an unusually protracted duration of 20 years. The diagnosis and differentiation from a dermoid cyst poses considerable difficulties and challenges in the absence of a histopathology report. The current case was successfully managed through complete excision of the lesion while preserving the gland along with vital structures, and subsequent follow-up examinations conducted 11 months after surgery revealed no signs of recurrence. The straight forwardness of the procedure, absence of post – operative discomfort and minimal requirement for post – operative care render this technique an advantageous treatment option for the management of large mucoceles.

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