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Case Report

Frog like mucocele: Ranula and its management – Case report

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ABSTRACT

The mucocele, the oral ranula, and the cervical, or plunging, ranula are all clinical terminology for a pseudocyst with mucus leakage into the soft tissues surrounding it. These lesions are caused by mucin spilling into the surrounding soft tissues as a result of trauma or congestion to the salivary gland excretory duct. The emergence of mucoceles and ranulas is dependent on the interruption of saliva flow from the salivary glands' secretory mechanism. Two patients with a specific diagnostic were treated and are shown in this article.

1. Introduction

Ranula is a subtype of mucocele that develops in the mouth's floor.[1] The name Ranula comes from the Latin word "rana," which means "frog." The swelling looks like a frog's translucent underbelly.[2] Ranulas are often huge [>2cm] and shaped like a tense fluctuant dome vesicle.[3] The lateral floor of the oral cavity is the most typical location.[3] Ranula is most commonly caused by a partial occlusion of a sublingual duct.[4] Trauma is the second most prevalent etiological factor.[4] Under the tongue, Ranulas superior to mylohyoid muscle appears as a translucent bluish swelling. If it's darker, there aren't any colour changes.[1] Sublingual ranula, plunging ranula, and sublingual plunging ranula are the three forms of ranula used in clinical practice. When mucin fluid pressure dissects through mylohyoid muscle into submandibular region, a plunging ranula is formed.[5] Plunging ranula occurs predominantly in patients under the age of 30, and less frequently in youngsters under the age of ten. Two intriguing case reports of ranula in the oral cavity and plunging ranula in the submandibular area and mouth cavity in a young female and male infant are shown here.

2. Case 1

A 13-year-old female patient presented to the Department of Periodontics with a 9-day history of edoema in the left side of the mouth floor (Figures 1 and 2). The patient describes a growth that began as a peanut-sized bulge and steadily grew larger until it reached its current size. From the sixth day on, swelling was linked to pain. There is no history of trauma or previous surgery, and there is no history of swallowing or speech difficulties. There was nothing noteworthy about their family or personal history. There were no notable abnormalities found throughout the systemic examination. There were no regional lymph nodes palpable on extra oral inspection, and there were no further neck swellings. Intraoral examination revealed a single ovoid bulge on the left side of the floor of mouth measuring around 2.22cm that was soft, non-compressible and fluctuant and with negative diascopy test. The condition was tentatively diagnosed as ranula based on the history and clinical features. An occlusal radiography examination was performed on the patient, which indicated no signs of blockage.

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Fig. 1:

Fig. 2:

Fig. 3:

Fig. 4:

Fig. 5:

Following normal preoperative checks, ranula excision was performed under local anaesthesia and histological examination (Figure 4) revealed a cystic cavity walled by flattened cuboidal epithelium and a cyst filled with numerous mucinophages (Figure 3). After 7 days, the sutures were removed (Figure 5), and the patient was checked once a week for 1 month.

3. Case 2

A 9-year-old boy patient presented to the Department of Periodontics with a four-month history of edoema in the right side of the mouth floor (Figures 6 and 7). Swelling began suddenly and was initially of peanut size, increasing in size until it reached its current size, which was not coupled with pain. The patient stated that eating and speaking were difficult for him. There has been no

prior surgery or trauma. There was nothing noteworthy about his family or personal background. There were no notable abnormalities discovered throughout the systemic examination.

Fig. 6:

Fig. 7:

In the submandibular region, an extraoral examination revealed a non-tender, diffuse, fluctuant and soft swelling of 3x2 cm in diameter. On intraoral inspection, a single dome-shaped, bluish swelling of around 3x4cm was present on the right side of the floor of mouth. It was non-compressible, fluctuant and non-tender, and the diascopy test was negative. After comparing the history and clinical symptoms, the patient was tentatively classified as sublingual plunging ranula, with thyroglossal duct cyst and cystic hygroma as differential diagnoses. An occlusal radiography examination was performed on the patient, which indicated no signs of blockage.

Ultrasonographic examination of the edoema revealed a substantial accumulation of fluid in the right paramedian submental region, with internal echoes reaching 2.8x3.4 cm.

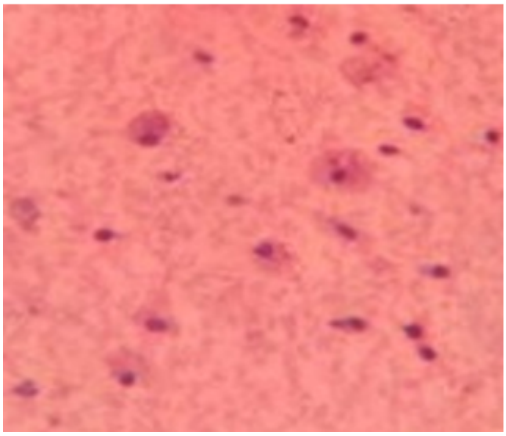

Fig. 8:

Fig. 9:

Fig. 10:

Under topical anaesthetic, FNAC revealed a thick yellow mucus-like aspirate, which was analysed cytologically and revealed the presence of both acute and chronic inflammatory cells, plasma cells, and macrophages, all of which were indicated of an inflammatory cystic lesion (Figure 8). Following all preoperative evaluations, the cystic lesion and sublingual gland were marsupialized and the sample was sent for histopathological examination, which revealed histiocytes in the cystic space and on the connective tissue wall (Figures 9 and 10), as well as cystic space filled with chronic inflammatory cells. Every week, patients were followed up on for 1 month.

4. Discussion

A ranula is a mucus-filled cavity in the floor of the mouth that communicates to the sublingual salivary gland.[5] The swelling mimics a frog's translucent underbelly. Ranula is a form of mucus extravasation pseudo cyst that occurs on the floor of the mouth, whereas other extravasation events, such as mucocele, more usually occur on the lower lip. Ranula appears classically as a bluish, transparent, thin-walled enlargement in the mouth floor. Plunging ranulas are centred on submandibular space6, while simple ranulas are confined to sublingual area. Ranula most typically affects children and young people, peaking in the second decade and affecting the right side.[4–7] When the fluid pressure of mucin dissects via a breach in the mylohyoid muscle in the submandibular space,[5] a clinical variant called plunging ranula arises. Ranula develops as a result of a partial blockage of a sublingual salivary channel or trauma. Submandibular salivary gland sialadenitis, Lipoma, haemangioma, dermoid cyst, and salivary gland neoplasms are all possible differential diagnoses for oral ranula in the floor of mouth. Lipomas are rare intraoral tumours that appear as a yellowish mass with encapsulation in the buccal mucosa, floor of mouth, and tongue. Haemangiomas are dark red developing lesions that are compressible and blanch when palpated. Mucocele are most usually found on the lower lip, with a history of lip biting and a smaller size than ranula. Salivary gland neoplasms, such as adenoid cystic carcinoma and mucoepidermoid carcinoma, frequently develop in the floor of the mouth and cause pain and bleeding.[7] Ranula is made up of a core cystic cavity filled with mucus and a pseudo cyst wall made up of loose, vascularized connective tissue. The absence of epithelial cells in the pseudo cyst wall is a key characteristic in histological diagnosis.[4] The core cystic cavity was walled by flattened cuboidal epithelium in our cases, and the cyst was filled with numerous mucinophages. In terms of age, the patients in our study were mostly young children; similar findings were made in studies by Godhi et al.[2], Arora KS et al.[8], and Carlini V et al.[9], in which the patients were mostly young children. The most prevalent place for ranula, according to B.Godhi[2], Mustafa AB[3], and Chavan S[10], is the lateral side of the mouth floor. Aside from clinical and imaging evaluations, fNAC and the presence of yellow aspirate, positive amylase and mucus but no epithelial or glandular elements, cholesterol crystals, and keratin12 are used to confirm the diagnosis. FNAC indicated thick yellow fluid overload with mucus, chronic inflammatory cells, and macrophages in our second case of plunging ranula. One of the greatest tools for identifying cystic lesions in the submandibular traingle is radiological procedures such as high resolution ultrasonography.[9]. In the second patient, ultrasonography indicated a substantial collection of fluid in the right paramedian submental region, with internal echoes reaching 2.8x3.4 cm. CT and MRI scans are useful for evaluating deeper tissue layers that sonography cannot fully assess.[11] Excision of the lesion with or without excision of the ipsilateral sublingual salivary gland, marsupialization, cryosurgery, carbondioxide laser excision, and intra cystic injections of streptococcal preparation [OK-432] are some of the therapeutic options for ranula. In a 2016 study, Carlini V et al found that surgical removal of the ipsilateral sublingual salivary gland is the most effective treatment. Ranulas should be treated conservatively, according to Baurmash et al., with marsupialization and guaze packing.[1–19] Excision of the ranula was performed in the first case, and marsupialization with excision of the sublingual salivary gland was performed in the second case, without any relapse.

5. Conclusion

Despite the fact that many cases of plunging ranula have been described, distinguishing between oral and plunging ranulas remains a diagnostic challenge. Because these lesions can be difficult to distinguish from benign and malignant salivary gland tumours, all cases of plunging ranulas should be thoroughly investigated using radiographic, biochemical, and histological methods. It is critical to recognise and treat illnesses as soon as possible, especially in children.

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7. Conflict of Interest

None.

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