

Surgical Management of Intraoral Ranula: A Case Report

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Abstract: Ranula is a retention cyst of the sublingual gland, which enlarges progressively and extends into the surrounding soft tissues. We report a case of oral ranula involving the floor of mouth treated successfully by surgical excision following detailed clinical examination, radiological interpretation and histopathological diagnosis. The patient was followed up on a regular basis and was disease free.

Keywords: Ranula, Sublingual gland, excision.

I. Introduction

Ranula is a retention cyst of the sublingual gland, enlarge progressively and extends into the surrounding soft tissues. Two variants have been described: A superficial (Oral) ranula and Cervical (Plunging) ranula.

Simple ranulas remain confined to the sublingual space, whereas diving ones extend beyond it. Ranulas superior to the mylohyoid muscle appear as a translucent bluish swelling under the tongue, resembling a frog's underside. Primary etiology of these lesions is due to partial obstruction of a sublingual duct.

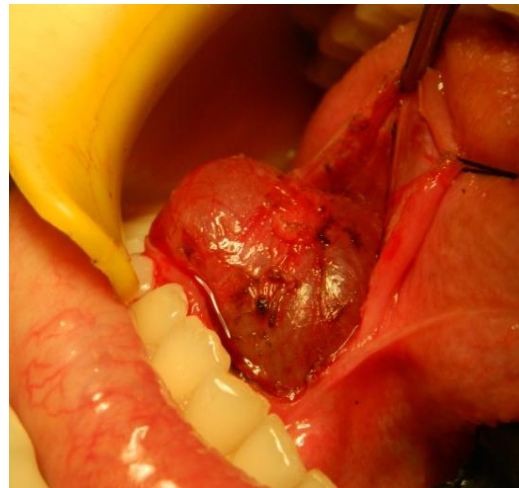
II. Case Report

A 19-old female patient reported to our center with a chief complaint of chronic swelling in the right floor of the mouth since 3 months on clinical examination, a bluish well circumscribed swelling measuring 2x2 cm. Medially, the swelling extended till the midline of the floor of the mouth and the lateral extent was till the lingual vestibule. Posteriorly, the swelling limited unilaterally to an imaginary line drawn from the right first molar to the other side first molar thus confirming that the swelling did not extend beyond the posterior margin of the mylohyoid muscle into deeper spaces. Tongue was displaced towards the left side due to the swelling. Careful examination of the right submandibular and sublingual ducts revealed patency.

Bimanual palpation of the right sublingual gland revealed slight tenderness as compared to the left one. There was no history of chronic cheek bite or irritation. No significant extraoral swelling or asymmetry was evident. The swelling was soft in consistency and non-tender on palpation. Mucosa over the swelling was normal with absence of any ulcerations or sinus discharge. There were no other secondary changes involved like paresthesia or cervical lymphadenopathy.



Fig(1) shows Preoperative swelling



Fig(2) shows well defined Lesion

Radiographic examination was not significant with absence of any calcifications. For detailed study T1, T2 weighted Magnetic resonance imaging was advised, which revealed right side lesion involving sublingual space inferolaterally restricted by mylohyoid muscle and medially by genioglossus muscle. On post contrast scan smooth peripheral enhancement is seen. Mass Measures 34(AP) x 24(CC) x 9.8(TR)mm in size. Aspiration was performed under topical anesthesia and collection of thick mucus like aspirated, which was subjected to cytological examination. Initial diagnosis of ranula was made on the basis of clinical appearance, cytological examination and MRI report. Based on the clinical, histological findings, treatment was planned excision of the lesion.



Figure(3) shows MRI of lesion

The lesion was approached intraorally through a mucosal incision placed over the lesion, Careful dissection in the submucosal plane revealed a well encapsulated soft swelling which was fragile but could be separated from the surrounding connective tissue and muscle plane then surgical excision was done. Complete haemostasis was achieved and primary closure performed. The excised specimen was sent for histopathological examination which confirmed the diagnosis of ranula.



Figure (4) shows excised tissue specimen

Histological examination shows mucous laden macrophages along with damaged and dilated minor salivary gland ducts in the connective tissue. Few normal mucous acini and chronic inflammatory cells are also seen. There were no specific complaints postoperatively. The patient was disease free without any recurrence during the follow-up period(2 years).

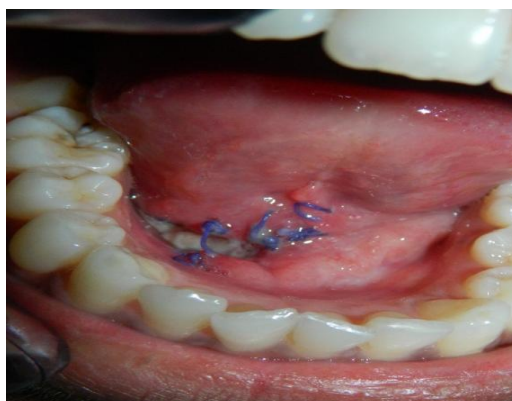


Figure (5) shows suturing of defect

III. Discussion

A ranula is a mucus filled cavity, a mucocele, in the floor of the mouth in relation to the sublingual gland". The name "ranula" is derived from the Latin word "rana" meaning "frog". These represent for 6% of all oral sialocysts. Although there is no specific sex predilection for ranula in the floor of the mouth which develops from extravasation of mucus after trauma to the sublingual gland or obstruction of the duct.

MRI study is most sensitive investigation to evaluate the sublingual gland and other structure. On MRI, the ranula's characteristic appearance is usually dominated by its high water content

Thus, it has a low T1-weighted, an intermediate proton density, and high T2-weighted signal intensity. This appearance, especially in a plunging ranula, may be similar to that of a lymphangioma, a lateral thyroglossal duct cyst, and possibly an inflamed lymph node.

However, if the protein concentration of the ranula's contents is high, the signal intensities can vary, often being high on all imaging sequences. In such cases, the MRI differential diagnosis includes entities such as dermoids, epidermoids, and lipomas. Surgical management of ranula include incision and drainage, Enucleation of ranula, marsupialization and marsupialization with packing or complete excision of sublingual gland, cryosurgery, fenestration and continuous pressure.

The recurrence rate with the various treatments was 100% in cases of incision and drainage, 61% in cases of simple marsupialization, and 0% in the case of Enucleation of the ranula with or without sublingual gland excision Surgical excision is best treatment for ranula.CO₂ laser as a treatment modality has been used in few cases to vaporize ranulas.

Conflict of Interest:- There is no conflict of interest in this case report.

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