

Case Report**Ranula – threefold habituation**Wagh SN¹, Bangar CP², Bhatnagar A³¹Dr Snehal Narendra Wagh
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ABSTRACT

Intraoral swellings present as a diagnostic challenge to the clinician, the most bourgeois being mucocele & ranula. An intraoral ranula has been defined as a retention cyst due to ductal obstruction & fluid retention of the sublingual salivary gland on the floor of the mouth. The name "ranula" has been derived from the latin word "Rana" meaning "Frog." We hereby report a case of triennial recurrent ranula located in the floor of mouth, treated successfully by surgical excision by injecting an irreversible impression material to delineate the cystic lining of the lesion, after which the patient recovered unvariedly.

Keywords: Ranula, surgical excision, alginate impression material technique

Introduction

Ranulas are cystic lesions arising as or a consequence of rupture, breach of ducts of the sublingual glands leading to mucus extravasation or dilatation of the gland's duct. It most commonly arises from sublingual glands, whereas involvement of the submandibular gland is reportedly very rare. This case report highlights a case of an 8-year-old female patient with third time recurrent ranula, in the floor of the mouth treated with an efficacious surgical excision.

Case Report

An 8-year-old female patient reported to the dental clinic, with a chief complaint of pain and swelling, on the right side of the floor of the mouth accompanied by discomfort in

swallowing since one month (Fig.1). Patient's history revealed that the child had undergone the treatment for the same condition twice.



Fig. 1 Intraoral Swelling in Right side floor of the mouth

There was no significant systemic illness reported. Intraoral examination revealed a bluish well circumscribed swelling of approximately 1.5x1.5 cm in size, which was soft in consistency,

mobile, and non-tender on palpation. Mucosa over the swelling was normal with the absence of any ulcerations or sinus discharge. On palpating bimanually, it was revealed that the right sublingual gland slight more tender as compared to the left one with no other secondary changes involved like paresthesia or cervical lymphadenopathy.

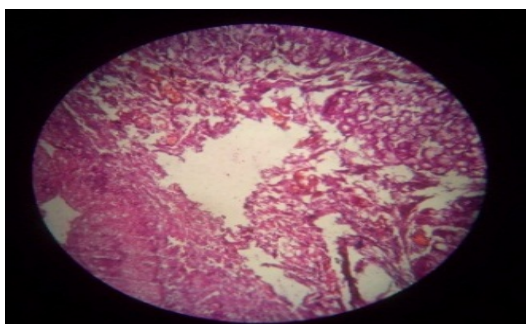


Fig. 2 Cystic wall manifested loose fibers with mild to moderate inflammatory cells (H&E 10x)

Aspiration of the swelling was performed under topical anesthesia which yielded a collection of mucus like aspirate which was sent for cytological examination. Initial diagnosis of extravasation type of simple oral ranula was made on the basis of history and clinical examination. Surgical removal of the Ranula was planned under general anesthesia.

Hematological/Biochemical/Pathological investigations were carried out that includes Hemoglobin Level (Hb), Blood Group, Erythrocyte sedimentation rate (ESR), Platelet count, Total & Differential Leucocyte Count, Packed cell volumes (PCV), Random Blood Sugar level (RBS), Bleeding time (BT) & Clotting time (CT), Blood Urea level, Hepatitis B antigen (Hbs-Ag), Serum Creatinine, HIV, Anti-HCV. Pre-

anesthetic checkup carried out with evaluation of Electro cardio graph. Differential consideration includes epidermoid cyst, branchial cleft cysts, hematoma, oral hemangioma.

The surgical excision was performed under general anesthesia. The oral cavity was kept open using bite blocks; the tongue was held out using suture material and needle holders. The mucosa over the ranula was incised without interrupting the sac. In order to improve the visual accessibility of the lesion, a thin mix of alginate impression material was injected into the lesion through its wall using a 19 gauge needle. This technique helped in clearly demarcating the exact boundaries of the lesion (Fig. 3).



Fig. 3 Injecting low viscosity alginate impression material

The lesion was excised by dissecting down to the muscle layer and removed in toto to avoid its recurrence leaving behind the sublingual duct and gland. The wound was approximated with resorbable sutures. The excised lesion was then sent for histopathological examination, whereas the intraoral lesion site demonstrated an uneventful healing. H&E stained section revealed the presence of salivary gland lobules separated by connective tissue septa along with dilated ducts. The cystic wall

manifested loose fibers & showed mild to moderate inflammatory cells, blood vessels of varying caliber. Histiocytes in the wall of cyst were found dominant in some areas. (Fig. 2) A final diagnosis of mucous extravasation cyst was made. The patient is asymptomatic since 6 months and is under follow-up.

Discussion

Intraoral ranulas present as facile, asymptomatic swellings that have a relatively rapid onset with numerous size variations. These are usually large, unilateral, translucent bluish masses which have a 50.6% of recurrence rate.^[1]

Ranula is been classified in the literature as simple oral ranula and the deep diving or plunging ranula. The etiology of ranulas has been described as obstruction, atresia of the submandibular or sublingual salivary glands duct or association with any trauma to the mouth/ face. The most prosaic site of oral ranula is the right side of the floor of the mouth.^[1]

Yoshimura Y et al^[1] evaluate ranula cases retrospectively, their observation shown that, Removal of the sublingual gland combined with the ranula was the most reliable method. But R.T. Pandit et al^[2] observed that Sublingual gland excision removes the source of the mucus and thus significantly decreases the risk of recurrence, but there are associated complication with surgical excision of ranula like injury to Wharton's duct, obstruction of the sublingual gland, lingual nerve injury, sensory impairment of the tongue, recurrence and the development of a cervical ranula . To overcome these complications in

present study a better alternative was implemented that focused on complete removal of cystic lining to minimize the recurrence and surgical complications. Multipilcit treatment modalities like marsupialization (reported with 61 to 89% recurrence rate), micro marsupialization, excision of the lesion without or with sublingual gland excision are in practice for eradicating ranula also to avert surgery on the floor of the mouth and to prohibit any atrocity to vital structures like the submandibular gland duct and the lingual nerve and artery.^[3] Zhi K et al introduced Intracystic injection of sclerotherapy agents like OK- 432. OK - 432 is a lyophilized mixture of low-virulence group A Streptococcus pyogens with penicillin G potassium, and Laser has been endorsed as primary and effective in the management of intraoral ranula. Nevertheless, surgical excision remains the gold standard for management of recurrent lesions.^[4] As compared to Zhi K et al in present study low viscosity elastomeric impression was used successfully.

For lesions which undergo untimely exorbitant damage while excisional procedures, a technique using alginate impression material to delimit the afflicted boundaries of the lesion have come to the forefront. This technique usually is commenced before excising the cystic lesion, in which the impression material of very low viscosity after being injected slowly into the lesion is allowed to set, therefore acting as a reliable guide to demarcate the exact mutilated boundaries of the same.^[5] Thus, in the present case, this technique was used which aids to the

complete and successful elimination of the cystic lining, curtailing the recurrence of the lesion which is essential in post-operative phase. Various case reports and research on ranulas show that incomplete or partial removal of cystic lining is responsible for recurrence.^[2] Histopathological examination of the lesion consisted of a central cystic space containing mucin and a pseudocyst wall composed of loose, vascularized connective tissues, with a predominance of histiocytes within the pseudocyst wall.^[6] A characteristic feature in histologic diagnosis is the absence of epithelial tissues in the wall of a ranula.^[4] Biopsy of the cystic wall is recommended to rule out the presence of squamous cell carcinoma arising from the cyst wall and papillary cystadenocarcinoma of the sublingual gland, which may present as ranula.^[7]

Conclusion

A low viscosity irreversible impression material like Alginate impression material can be used as a demarcating medium that can be a valuable intraoperative aid to completely eliminate the cystic lining of ranula. A low viscosity irreversible impression material injected into the cystic lesion serves as a meticulous guide to exterminate the lesion. Also Sialoendoscopy - a promising new method used in diagnosis, treatment and postoperative management of recurrent cystic lesions & obstructive salivary gland diseases can prove as a helping hand to completely eradicate such conditions. Nonetheless, very few cases have been reported in the literature using the same technique, so

long-term clinical follow-up is essential to evaluate the clinical outcomes of such procedures. Hence, appropriate management protocol has to be devised for inclusion/ exclusion of salivary glands for such cystic lesions.

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