CASE REPORT

A CASE REPORT OF RECURRENT SUBLINGUAL RANULA: DIAGNOSIS AND TREATMENT OPTIONS

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ABSTRACT:
Ranulas are painless or mildly uncomfortable, soft, fluid filled vesicles that occur in floor of mouth. Both mucus retention and mucus extravasation phenomenon have been implicated in the aetiology of ranula. While diagnosing, careful differential diagnosis should be carried out to rule out the other lesions occurring in the floor of the mouth like the lipoma, dermoid cyst, abscess, salivary gland lesions and vascular lesions. Treatment options are variable, but excision of ranula along with the sublingual gland is the most accepted treatment modality.

Key Words: Ranula; Sublingual gland; Plunging ranula.

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INTRODUCTION
Ranula is a mucocoele which is present in relation to sublingual gland. It results from extravasation of saliva from any one of the 20 ducts that arise from the sublingual gland. They are characteristically large (3-6 cm) and form a blue, dome shaped swelling in the floor of the mouth. The typical size of a ranula and the firmness of floor of oral mucosa together resemble a frog’s belly, hence the name “ranula”. Various treatment modalities have been published by various authors. The most predictable approach is excision of fibrous capsule and the entire sublingual gland from which it arises. Floor of mouth has important structure, the lingual nerve, therefore good precautions should be undertaken while excision. Here is a case report of a patient with ranula and its surgical management. This paper also discusses the various other treatment modalities available for the treatment of ranula.

CASE REPORT
A 40 year male reported to the dept. of Oral and maxillofacial surgery with the chief complaint of pain and swelling below the left side of the tongue since 8 months. The swelling was initially small in size as of pea which gradually increased in size. Patient complained of pain peculiarly while eating food. No history of trauma was given by the patient. Patient gave a history of tonsillectomy surgery 8 months back by ENT surgeon. Earlier management for the same lesion was done 2 months back when the lesion was small via marsupialisation; the problem resolved for a few days but recurred in 2 month with the swelling enlarged.

Intraoral examination revealed oval to circular circumscribed swelling, bluish pink in color, around 4 × 3 × 2 cm in size present over the left side of floor of mouth. It had a smooth surface, was fluctuant and soft in consistency. Another yellowish fluid filled vesicle, around 0.5 ×0.5×0.5 cm in size, circular in shape was noticed over the right side of floor of mouth with smooth surface and fluctuant consistency. The patient had poor oral hygiene. On palpation, the swelling was non tender, fluctuant, non compressible.

Figure 1: Pre-operative view of Ranula
Correlating the clinical finding, the case was provisionally diagnosed as “Ranula”. Occlusal view and OPG revealed no associated bony changes and no obstruction was noticed. Sialolith was thus ruled out. MRI scan showed wedge shape homogeneously enhancing soft tissue thickening noted in left sublingual region of size 2 cm×1.9 cm. Base of this soft tissue thickening was closely abutting left sublingual gland. No significant nodes in submental, submandibular & rest of cervical region were found. Finding could represent Chronic Sialadenitis.

**DISCUSSION**

The name “ranula” is derived from the Latin word “rana” which means “frog” which resembles translucent underbelly/air sac of frog. It is defined as a mucus filled cavity in relation to sublingual gland present in the floor of mouth. It appears as tense, dome-shaped vesicle, which is fluctuant and characterized by size larger than 2 cm and sometimes may present with a bluish hue. Ranula accounts for around 6% of oral sialocysts and its prevalence is around 0.2 cases of 1000. Out of all the cases diagnosed as ranula only 1 - 10% are truly retention cysts. The peak age of occurrence of ranula is second decade and normally found in children and also young adults.\(^1\)

The etiopathogenesis of ranula is mainly attributed to trauma & partial obstruction of sublingual duct (<10%) Ranula can occur either due to mucus retention or mucus extravasation phenomena which usually occurs due to trauma. But the current review and opinions support mucus extravasation secondary to developmental factor as ranula are devoid of lining epithelium.\(^2\)

The differential diagnosis of all the clinical types of ranula includes inflammatory, neoplastic lesions of major salivary glands except the parotid gland, of the lymph nodes, granulomatous diseases, diseases of the adipose tissue, thyroglossal duct cysts, cystic hygroma, dermoid, epidermoid cysts and laryngocoele.\(^3\)

Ranula is an extravasation pseudo cyst with its location in the floor of the mouth where as the other type of extravasation phenomena that is mucocele occurs mainly on the lower lip. The fluid contents of ranula are composed of salivary amylase and protein in higher contents when compared to serum. This indicated that ranula originates from sublingual gland as it produces highly protein saliva in contrast to submandibular gland.\(^4\)

Clinically there are two types of ranula- oral & cervical/plunging. Cervical ranula mainly occurs due to the sublingual gland projecting through the mylohyoid muscle or the ectopic salivary gland exist on the cervical side, dehiscence or hiatus of mylohyoid muscle iatrogenically after surgery to remove the oral ranula/sialoliths. The cervical ranula appears as asymptomatic, enlarging, non tender, fluctuant mass lateral to the midline.

There are various modalities of treatment that be applied to treat the ranula. The treatment modalities include the excision of the lesion with or without excision of ipsilateral sublingual gland, marsupialisation, cryosurgery, CO2 laser excision. The treatment of choice is surgical excision though it involves the potential risk for injury to the Wharton’s duct, obstruction of sublingual gland, lingual nerve injury, recurrences & development of cervical ranula. In marsupialisation there is unroofing of cyst, attaching the edges to neighbouring tissue & then the cavity is packed with gauze. This treatment is associated with high recurrence rate. CO2 laser is done with patient with good access to lesion & radiation who cannot tolerate the surgery.\(^5,6\)
Garofalo S et al. in a study evaluated the effectiveness of orally administered Nickel Gluconate-Mercurius Heel-Potentised Swine Organ Preparations D10/D30/D200 for treatment of ranula without surgery. The mechanism of action of which is to stimulate pseudocyst reabsorption and glandular repair thus improving the physiologic functioning of the gland. They concluded that this is an effective treatment for ranula and oral mucoceles. A study conducted by Fukase S. et al. showed a disappearance or marked reduction in ranula size with injection of OK-432. In their study only half of the patients experienced local pain or fever which resolved within several days. Intra-cystic injection therapy with OK-432 is relatively safe and can be used as a substitute for surgery in the treatment of ranula. Sialoendoscopy holds a promising future as a new and better method for diagnosis, treatment and postoperative management of sialadenitis, sialolithiasis and other obstructive salivary gland disease. In a study done by Yasuro Yoshimura, Seiji Obara and Shin-Ichi Naitoh, a recurrence rate of 25.0% was noticed via excision of the ranula only (4 patients), 36.4% via marsupialization (22 patients), and 0% via removal of the sublingual gland combined with the excision of the ranula (9 patients). The most common complications associated with the surgical management of ranula as reported by Zhao et al. include recurrence of the lesion, sensory deficit of the tongue, and damage of the Wharton’s duct. Post operative hematoma, infection, or dehiscence of the wound were seldom seen.

CONCLUSION
Definitive treatment of ranula is surgical excision of ranula along with sublingual gland. Definitive precautions should be undertaken when dealing with the floor of mouth so as to protect the vital structures present there.

REFERENCES

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