

Simple Ranula : A Case Report

Prof. (Dr.) Muralee Mohan
Professor

Dr. Deepthi Shetty
Assistant Professor

Dr. Tripthi
Assistant Professor

Dr. Mansi Vakil
P.G. Student

Department of Oral & Maxillofacial Surgery
A.B. Shetty Memorial Institute of Dental
Sciences, Mangalore, Karnataka

Address for Corresponding

Dr. Dharnappa Poojary
Associate Professor
Department of Oral & Maxillofacial Surgery
Manipal College of Dental Sciences, Mangalore.
dharnappa.poojary@manipal.edu

Abstract

Ranula by definition is a mucous filled cavity in the floor of the mouth in relation mostly to the sublingual gland. This paper highlights a case report of ranula in the floor of the mouth that

reported to the outpatient department of Oral & Maxillofacial Surgery of our college and has been successfully treated by marsupialization.

Keywords: Ranula, Floor of mouth, Marsupialization

Introduction

Ranula was first reported by Hippocrates and Celcius¹ and by definition is “a mucous filled cavity, a mucocele, in the floor of the mouth in relation to the sublingual gland”⁴. The name “ranula” has been derived from the Latin word “Rana” which means “Frog”. The swelling resembles a frog’s translucent under belly or air sacs.^{2,4,8} Ranulas appear as a tense fluctuant dome shaped swelling, commonly in the lateral floor of the oral cavity.²

Theoretically, ranulas are cystic lesions which results either from rupture or damage of ducts of the sublingual glands leading to mucous extravasation or retention of the saliva and dilatation of the gland’s duct³. The accumulation of mucous into the surrounding connective tissue forms a pseudocyst that lacks an epithelial lining.⁴

Case Report

A 39 year old male patient reported to our department with the chief complaint of painless swelling below the tongue on the right side, for the past one week. History revealed that the swelling has gradually increased in size to the present size. No history of any pain or difficulty in swallowing was reported. There was no extraoral swelling noticed. No paresthesia was associated with the swelling and the regional lymph nodes were not palpable.

Past dental history revealed that he had a prosthetic rehabilitation wrt 45, 46 and 47.

No extraoral signs and symptoms were elicited.

Intraoral examination revealed well defined, dome shaped, lobulated, transparent, bluish tinged 3cm×2 cm swelling in relation to right side of the floor of the mouth which

extended anteriorly from 44 and posteriorly distal to 46, medially to the midline and laterally to the right lingual sulcus and is associated with a raised oral floor.

On palpation all inspeactory findings were confirmed. The swelling was soft in consistency, non-tender and fluctuant. There were no secondary changes like ulceration, fistula formation, infection, discharge.

The case was provisionally diagnosed as “ranula” and treated accordingly. (Fig. 1)

Under local anaesthesia, marsupialization of the ranula was carried out under sterile conditions. Elliptical incision was placed on the superior most part of the cystic lesion and all mucous secretions were drained out and the cystic cavity was examined thoroughly. Sutures were placed on each side with a 4-0 Vicryl suture to keep the opening patent such that the mucous drains into the floor of the mouth. (Fig. 2, 3 & 4)

After surgery, the patient was put on five days of antibiotic therapy with analgesics, multivitamins and mouth wash. The patient was followed up periodically every week for 6 months with no eventual recurrence.

Discussion

Ranula is a mucous containing, well circumscribed, soft, bluish swelling covered by a thin layer of epithelium that occurs in the floor of the mouth^{2,4}. Trauma or surgery to the floor of the mouth or neck region may cause rupture of the sublingual gland acini or cause obstruction of the sublingual gland ducts thereby resulting in mucous extravasation and formation of ranula.²

Ranula can be classified into two groups, Simple (intra oral) and the Plunging (Cervical) type. Simple ranula is more commonly seen than plunging type. “Oral

ranula is a mucous retention cyst arising from the sublingual gland on the floor of the mouth as a result of ductal obstruction and fluid retention”⁶, whereas “Plunging ranulas are associated with mucous extravasation beyond the mylohyoid muscle along the fascial planes of the neck”. The mucous is generally collected in the submandibular and submental space of the neck with or without an associated collection intraorally.⁶

Pathogenesis of ranula is explained under two concepts. First, it is a true cyst formation due to ductal obstruction with an epithelial lining and second, it is a pseudocyst formation due to ductal injury and extravasation of mucous without an epithelial lining.⁸ Uncommonly ranula may present as a rapidly enlarging swelling following infection. The possibility of a plunging ranula should be considered in a patient with painless cervical swelling that gradually increases in size, particularly if there is a history of oral trauma, including dental or other oral surgical procedures.⁴ Complication associated with oral and plunging ranulas are rare, but if large, may affect swallowing, speech or mastication and may result in airway obstruction. The very rare thoracic ranula may compromise respiratory function and may be life threatening.⁶

Oral ranulas exhibit slight female predilection, with a male-to-female ratio of 1:1.4, while cervical ranulas have a predilection for males.^{3,6} Ranulas are most common in second decade of life and usually seen in children and young adults. The cervical variant tends to occur a little later in the third decade.⁶

The diagnosis of ranula is principally based on the clinical examination and



Mohan, et al. : Simple Ranula : A Case Report

sometimes on computerised tomographic or magnetic resonance imaging findings for the plunging lesion. In doubt, aspiration of the mucus from the lesion and a laboratory determination of amylase content helps in confirming the diagnosis.^{3,8} The biochemistry analysis of the saliva reveals a high protein and amylase concentration which correlates with secretions from the mucinous acini in the sublingual gland. The high protein content may produce a very intense inflammatory reaction, mediating pseudocyst formation.⁵

The differential diagnosis of ranula includes abscess, dermoid cyst, and vascular lesions. The differential diagnosis of a plunging ranula includes branchial cyst, thyroglossal duct cyst, epidermal cyst, cystic hygroma, arteriovenous malformation, lymphadenopathy, abscess or soft tissue tumours.^{3,8}

Different methods for the treatment for ranulas include - Excision of the ranula via an intraoral or cervical approach, marsupialization, intra oral excision of the sublingual gland and drainage of the lesion and excision of the lesion with sublingual gland.⁴

Besides surgical management, treatment with CO2 LASER, Er, Cr :YSG LASER is widely practiced to vapourize the ranulas.

The minimal lateral tissue damage, less pain, swelling and scarring for the patient are the added advantages with the LASER.³

Newer treatment modalities like intracystic injection of OK-432 (a lyophilized mixture of low virulence group A streptococcus pyogenes with penicillin G potassium) have been tried but lacks popularity because of its adverse effects like fever and pain at the injection site and limitation in its availability.⁷ The use of botulinum toxin type A in the treatment of ranulas is a simple, nonsurgical, innovative procedure. The drug acts by chemical denervation of the secretomotor parasympathetic nerve endings responsible for salivation.^{3,8} A recent study found orally administered Nickel Gluconate- Mercurius Heel-Potentised Swine Organ Preparations D10/D30/D200, a haemotoxicological agent to be an effective treatment modality for ranulas.³

Conclusion

Effective treatment of ranula requires accurate diagnosis of the specific disease. Newer advancements in the field of imaging aid the clinician in making a proper diagnosis. Since injury to the lingual nerve and sublingual duct are potential complications

associated with surgical procedures, the quest for alternative treatment modalities continues. However, marsupialization stands as an effective, simple, time tested method for treatment of ranulas with minimum complaints and repercussion.

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Fig. 1: Clinical photographs of ranula in right floor of mouth



Fig. 2: Drainage of the mucus secretion

Fig. 3: Cystic cavity

Fig. 4: Marsupialization done and cystic lining sutured