

CASE REPORT

A FLUCTUANT SWELLING IN THE FLOOR OF MOUTH

ABSTRACT

Swellings arising from the floor of the mouth can be a diagnostic challenge. We have to distinguish it from infections or tumors of salivary gland, mucous extravasation phenomena, benign or malignant tumours of connective tissue and also from abnormalities arising during embryonic development. This article reports a case of swelling within the floor of mouth emphasizing the clinical steps that helped to achieve an accurate diagnosis of ranula, the differential diagnosis, the investigations and various treatment modalities for the same.

KEY WORDS: fluctuant swelling, floor of mouth, Ranula

J Odontol Res 2015;3(1)40-43.

Authors:

Abdulla Mufeed¹
Roshni Sajid²
Anis Ahmed³
Ashir KR⁴

¹Reader
Dept of Oral Medicine & Radiology
MES Dental College
Perinthalmanna
Malappuram- Kerala

²Professor
Dept of Oral & Maxillofacial Surgery
MES Dental College
Perinthalmanna
Malappuram- Kerala

³Reader
Dept of Oral Medicine & Radiology
Indira Gandhi Institute
of Dental Sciences
Kothamangalam, Ernakulam Dt., Kerala

⁴Senior Lecturer
KMCT Dental College
Mukkam
Calicut- Kerala

Corresponding Author:

Dr. Abdulla Mufeed
Reader
Dept. of Oral Medicine & Radiology
MES Dental College
Perinthalmanna
Malappuram- Kerala
Email: abmufid@yahoo.co.in

INTRODUCTION

Clinicians often come across swellings of the floor of mouth which may be developmental, inflammatory, benign or malignant lesions. A detailed history combined with meticulous clinical evaluation will facilitate the diagnosis. A number of investigations are available to aid the diagnosis and has to be chosen according to the need. This article is intended to exhibit and discuss a case of obstructive swelling of the floor of mouth.

CASE REPORT

An 18-year old girl reported with a complaint of a swelling on the floor of her mouth since 6 months. It was reportedly smaller in size and gradually progressed causing her discomfort during speech and mastication. The swelling had ruptured twice but was not associated with bleeding or pus discharge. The swelling reappears few days after its rupture and increases in size. No change in size is noticed during meal times. There were no significant findings on general physical examination. Intra orally, a well-defined, lobulated, ovoid swelling was observed between the ventral aspect of tongue and floor of mouth on the right side (fig.1). It was bluish in color with smooth, shiny outline measuring around 3X4 cms. The swelling was soft and fluctuant, non-pulsatile and non-tender on palpation. A provisional diagnosis of ranula was made based on the history and clinical presentation. Differential diagnosis of sialolith, dermoid cyst and connective tissue tumors such as lipoma or fibroma was also considered but ruled out because of the history of occasional rupture of swelling and fluctuant consistency. A fine needle aspiration was carried out and the contents obtained were clear fluid. Such simple bedside or chair-side investigations can be used to rule out vascular lesions. Surgical excision of the swelling and the sublingual gland was done under local anaesthesia (fig.2, 3) and the patient was discharged with post-operative instructions and medications. One week later the patient was recalled for review and the surgical site had healed uneventfully. Her phonation and tongue movements were significantly improved.

DISCUSSION

Ranula is a specific form of mucocele which occurs in the floor of the mouth in association with the ducts of the submandibular or sublingual salivary gland. The term Ranula was derived from the latin word Rana which means 'Belly of frog' as it resembles the underbelly of a frog. Verma G defines ranula as a pseudocyst that lacks an epithelial lining and arises due to accumulation of saliva in the connective tissue resulting from rupture of the excretory ducts¹. However some studies report that 1 to 10% of ranula are true retention cyst.² On clinical presentation, they are small to medium sized swelling on the floor of the mouth lateral to the lingual frenum. In our case a medium sized swelling was appreciated on the right side to the frenum. On palpation, they are soft and fluctuant with mild tenderness. However, the patient can experience displacement of tongue and interference with oral function as was reported in our case. Ranulas have classically been divided into simple and diving/plunging type. Simple ranulas classically remain confined to the sublingual space, whereas plunging ranulas extend beyond it³. It is accepted that they arise as a result of extravasation of saliva from the sublingual gland through a hiatus in the mylohyoid muscle. The prevalence of ranula is about 0.2 cases per 1000 persons and accounts for 6% of all oral sialocysts².

Swelling of the floor of the mouth is of clinical importance as some benign and malignant lesions may have similar clinical presentation. Submandibular lithiasis is one of the most frequent causes of intraoral swelling. This will be associated with increase in swelling during meal times. Occlusal radiography, ultrasound of the submandibular region or computed tomography will be quite helpful in confirming and locating the sialolith. Dermoid cysts could be the next consideration occurring in the second or third decade of life. They are more commonly central though lateral varieties are also accounted for. Their consistency will be dough like and ultrasonic scan will show infrasonic formation with distinct boundaries. Other developmental lesions which very rarely occur are the branchial cleft cyst, heterotopic gastrointestinal

cysts, thyroglossal duct cysts and ectopic thyroid tissue. Other congenital masses include vascular malformations which will appear erythematous and lymphangiomas which more probably appears as multiple projections. Inflammatory swellings of the floor of the mouth include Ludwig's angina, cellulitis, and submandibular and sublingual space infections all of which are diffuse in nature. Benign mesenchymal tumors such as fibroma, neurofibroma (firm in consistency), lipoma (soft in consistency) can also occur but will be a well defined, smooth, slow growing swelling. Malignant neoplasms of the salivary gland such as adenoid cystic carcinoma and mucoepidermoid carcinoma and rarely lymphoma can also occur as swelling in the floor of the mouth masking the true aggressive nature of these lesions. Needless to say, even though multiple investigative modalities are available ranging from simple fine needle aspiration as done in this case to magnetic resonance imaging and scintigraphy (to rule out thyroid tissue) confirmation diagnosis via histopathological examination remains the gold standard^{4,5}. Various treatment modalities advocated are incision and drainage, marsupialization, excision of ranula only and excision of ranula along with sublingual salivary gland¹. The latter was done in this case because of damage to the sublingual duct. Beside surgical management, CO₂ laser and Cr: YSG laser has been used to vaporize ranulas. The minimal lateral tissue damage seen with laser minimizes the risk. Intra cystic injection of sclerotherapy agents like OK-432 (a lyophilized mixture of low virulence group streptococcus pyogenes with penicillin G potassium), Bleomycin and Botulinum Toxin Type A has been reported to be effective in the management of intraoral ranulas⁶.

CONCLUSION

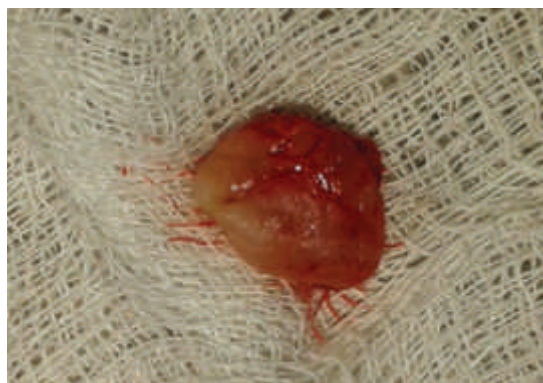
Ranula is an uncommon lesion arising from the sublingual gland presenting as a soft fluctuant swelling on lateral aspect of floor of mouth. It can be readily recognized by clinical evaluation. This article helps to familiarize ranula, thereby improving the diagnostic skills. Oral ranulas are better managed by surgical removal along with offending sublingual gland.



*Figure 1:
Bluish, dome shaped swelling
on the floor of mouth.*



*Figure 2:
Surgical excision of the lesion
with the sublingual glands*



*Figure 3:
The excised specimen*

REFERENCES

1. Macdonald AJ, Salzman KL, RicHarnsberger H. Giant ranula of the neck; differentiation from cystic hygroma. *AJNR Am J Neuroradiol.* 2003;24(4):757-61.
2. Verma G. Ranula : A Review of Literature. *Arch Cran Oro FacSc* 2013;1(3):44-9.
3. Venkat BS, Sambhav KV. Huge Plunging Ranula. *J Maxillofac Oral Surg.* 2012;11(4):487-90.
4. Engel JD, Ham SD, Cohen DM. Mylohyoid herniation: gross and histologic evaluation with clinical correlation. *Oral Surg Oral Med Oral Pathol.* 1987;63(1):55-9.
5. Makos C, Noussios G, Peios M, Gougousis S, Chouridis P. Dermoid Cysts of the Floor of the Mouth: Two Case Reports. *Case Reports in Medicine.* 2011.
6. Rho MH, Kim DW, Kwon JS et-al. OK-432 sclerotherapy of plunging ranula in 21 patients: it can be a substitute for surgery. *AJNR Am J Neuroradiol.* 2006;27(5):1090-5.