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PLUNGING RANULA: AN INTERESTING CASE REPORT

Otolaryngology

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ABSTRACT

The term Ranula is a Latin word meaning frog. It refers to a bluish translucent cystic lesion in the floor of the mouth resembling the underbelly of a frog. Ranulas can be true cysts occurring due to ductal obstruction of the sublingual gland or a minor salivary gland or a pseudocyst as a result of ductal injury leading to extravasation and accumulation of saliva in the surrounding tissues. Clinically ranulas present as intraoral or plunging ranulas. The prevalence of ranula is 0.2% per 1000 patients. Ranulas account for 6% of all salivary gland cysts. Ranulas are more common in children and young adults. The treatment modalities range from simple marsupialisation to excision of the pseudocyst along with sublingual or submandibular gland excision.The purpose of this paper is to present a rare case of plunging ranula with recurrence.

KEYWORDS

Ranula, Salivary glands, Recurrence.

INTRODUCTION

The term ranula is a Latin word meaning frog.[1]It refers to a bluish translucent cystic lesion in the floor of the mouth resembling the underbelly of a frog. Ranulas can be true cysts occurring due to ductal obstruction of the sublingual gland or a minor salivary gland or a pseudocyst as a result of ductal injury leading to extravasation and accumulation of saliva in the surrounding tissues. Ranula can be classified into two types : Oral or simple ranula ,Cervical or plunging ranula. Simple ranula is localized to the floor of the mouth, while in case of plunging ranula,extravasation of mucus occurs beyond the confines of the floor of the mouth and the mucus collection is therefore in the infra- mylohyoid compartment of the neck, with or without a clinically apparent intra oral collection.[2] It is an uncommon variety. In most of the cases it is diagnosed clinically. In our case we have a plunging type of ranula with recurrence of it twice after surgical treatment which makes it unique in its presentation and hence deciding the treatment modality.

CASE REPORT

We here present a case of plunging ranula in 20 year old patient who had unusual history of recurrence which was successfully excised by extraoral approach. A 20 year old male presented with swelling left side floor of mouth and left side submandibular region for 2 months. Patient complained of dysphagia and swelling in neck. Patient had history of similar swelling in left side submandibular region when he was 4 years old. Patient got excision of ranula as per records available. FNAC was done revealed benign cystic lesion. Again the following year patient complained of swelling floor of mouth for which he got operated(Fig 1). No records were available regarding the procedure which was done. Now he presented to us with swelling left floor of mouth and left submandibular region (Fig 2,3).

On examination it showed bluish well circumscribed swelling measuring 2*2 cm(approx) was noticed in left side of oral cavity pushing the tongue to the right side, soft and tender on palpation. Oral hygiene was good. No dental abnormality was found. Externally swelling was in submandibular region 6*6cm (approx),it was smooth swelling, non tender, temp of swelling found to be normal. Patient was taken for ranula excision by extra oral approach under G.A. Incision was given 2 finger below the mandible extending from left sternocleidomastoid to the centre of mandible. Platysma breeched, flap elevated, dissection continued, lingual nerve visualised. Sublingual gland along with ranula excised (Fig. 4), and tissue was sent for biopsy and histopathological examination. Histopathological study revealed pseudocystic cavity filled with mucin and mucinophages surrounded by capsule and adjacent salivary gland tissue.

DISCUSSIONS

A Ranula is a mucus-filled cavity arising in relation to the sublingual gland. Sublingual ranulas present as bluish translucent swellings in the floor of the mouth. In contrast plunging ranulas present cervically, as fluid from the obstructed gland dissects between the fascial planes and muscles of the floor of mouth to the submandibular space. In the current case since the lesion predominantly had a sublingual plunging presentation with typical intraoral translucent swelling, it was classified as plunging type. The prevalence of ranula is 0.2% per 1000 patients. Ranulas account for 6% of all salivary gland cysts.[3] Ranulas are more common in children and young adults. Ranulas can arise secondary to an imperforate salivary duct or ostial adhesion. These are very rare and have been known to spontaneously resolve. Post traumatic ranulas arise from trauma to the sublingual gland, leading to mucus extravasation and formation of a pseudocyst. The more appropriate term for this may be mucus escape reaction (MER). Ranulas can be formed either from partial obstruction of a sublingual duct, leading to formation of an epithelial-lined retention cyst (this is unusual, occurring in less than 10% of all ranulas), or trauma can lead to formation of ranulas.

Trauma causes direct damage to the duct or acini, leading to mucus extravasation, which causes formation of a pseudocyst. It is generally accepted that the cause of the plunging ranula is extravasation of saliva arising from the sublingual gland. The lower position of the sublingual gland below the mylohyoid muscle was reported.[4]The recurrence rate of the ranula is not related to its swelling pattern, but intimately depends on the initial diagnosis of origin of the cause and the selected surgical procedure. These fundamentals have been missed in the initial treatment of our case. Different methods of treatment for ranulas have been reported in the literature with varying results. These include marsupialization, incision of the ranula and drainage, excision of the ranula and excision of the sublingual gland with drainage of ranula fluids.[4-8] The treatment options for plunging ranula includes sclerotherapy with OK-432, excision of the ranula, sublingual gland and ranula excision or sublingual gland excision.[3]

Zhao et al reviewed 580 treated ranula and found a recurrence of 66.7% with marsupialization, 57.7% with excision of the ranula alone, and 0% in case of excision of sublingual gland and its ranula.[3]Harrison reviewed the published treatment procedures for plunging ranula and concluded similar findings with high recurrence rate for marsupialization and excision of the ranula alone.[8] Another contradictory study by Samant et al reported that they recommended simple trans-oral sublingual gland excision with evacuation, but not excision of the ranula.[7] Davison et al and Ichimura *et al* in their review of five cases each on the treatment of plunging ranula by excision of the

ranula alone reported no recurrence but complications such as paraesthesia of the tongue and infection.[9-10] Plunging ranulas can be approached through a transcervical or transoral approach.[11] The complications associated with a cervical approach include injury to the marginal mandibular nerve, cervical fistula, and scarring. With an intraoral approach, the complications encountered are an injury to the lingual nerve,Wharton's duct, hematoma and bleeding. When excision of the sublingual gland and the ranula is planned a transcervical approach may be difficult because it requires the division of the mylohyoid muscle and dissection up to the mucosa of the floor of the mouth. The reported recurrence rates after various treatment modalities are incision and drainage (70% to 100%), marsupialization (36.4% to 80%), excision of ranula only (18.7% to 85%), and excision of ranula along with sublingual salivary gland (0% to 3.8%).[12]

CONCLUSION

Plunging ranula is a rare entity which should be considered in the differential diagnosis of neck lesions. A comprehensive diagnosis of plunging ranula can be made only on a combination of clinical, imaging and histologic findings. The treatment of plunging ranula is controversial and the treatment modality with the lowest recurrence rate and minimum morbidity should be planned. The choice of treatment should be decided on an individualistic basis rather than a fixed treatment protocol.

FIG 1

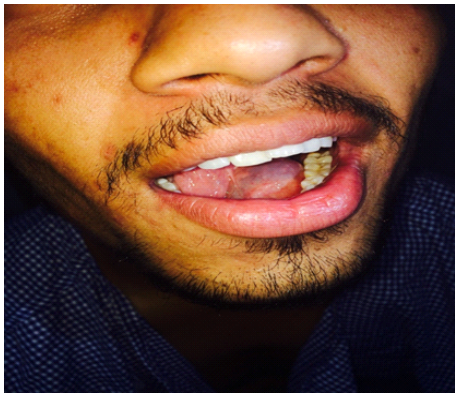

FIG 2

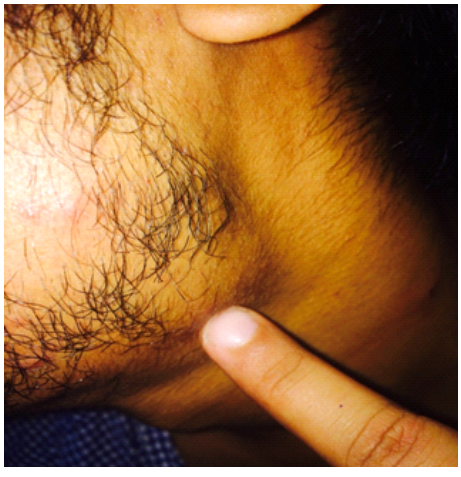

FIG 3

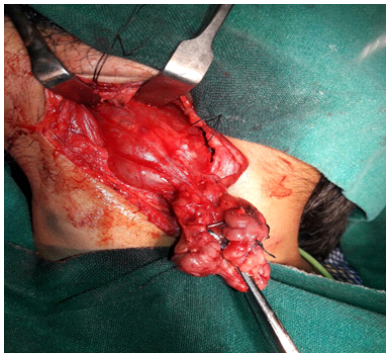

FIG 4

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