

Case Report: Management of Oral Ranula with Modified Micro-Marsupialization

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Abstract

Ranulas are lesions on the floor of the mouth that result from the extravasation of mucous. There has been an ongoing dilemma on the treatment, but currently, minimally invasive surgical ways such as micro-marsupialization have been put on forward. A 40-year-old female patient was consulted to our department with a bubble-shaped lesion located the floor of the mouth, on the left side. The provisional diagnosis was ranula. A modified micro-marsupialization was applied. After the 50 days of observation, complete resolution of the lesion was observed without recurrence. Modified micro-marsupialization is a minimally invasive, comfortable technique for both patient and operator with a high percentage of successive rate. It is well-accepted by the patient, mainly uncooperative patients. The aim of this case report is to present minimally invasive treatment of oral ranula.

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Keywords: Ranula, minimally invasive treatment, micro-marsupialization.

Introduction

Mucocele is one of the benign salivary gland cysts which occurs as a result of trauma or obstruction of the drainage system of minor salivary glands (retention phenomenon). Mucocele contains mucous. It is usually an asymptomatic vesicle and can develop wherever minor salivary glands occur (1,2). Ranula is build up of the saliva on the floor of the mouth. Rupture of these small ducts result in ranula. Ranula is a preemptive diagnosis. When the clinical diagnosis is doubtful, imaging modalities can be helpful (3). Treatment strategies include excision of ranula only, excision of ranula with or without salivary gland (mostly sublingual gland), marsupialization and micromarsupialization of ranula (4,5).

The purpose of this case report is to present a minimally invasive treatment of oral ranula.

Case Report

A 40-year-old female patient was referred to the Department of Oral and Maxillofacial Surgery with the main complaint of bluish lesion on the floor of the mouth for 10 days. The patient gave a history of cheek biting. The patient had history of Mediterranean anemia or no history of interventions in the oral cavity. She had deficiency of vitamin D, vitamin B12 and iron. Lymph node palpation was normal. Intra-oral examination showed translucent, blue, sessile, well-defined, fluctuant lesion medial to lower bicuspid (Figure 1). Mandibular occlusal radiograph showed no evidence of a sialolith interfering the submandibular salivary gland ducts. Ultrasonography was taken to evaluate the lesion. Ultrasonography revealed hypoechoic cystic oval-shaped lesion detected between mucosa of the floor of the mouth and mylohyoid muscle (Figure 2).



Figure 1. Swelling on the floor of the mouth (Ranula) (A), insertion of horizontal mattress suture (B) and immediately after suture placement (C).

Lesions' diameter was measured as 10 mm. Pre-emptive diagnosis was ranula. A modified micro-marsupialization was applied. Neither infiltrative nor topical anesthesia was applied before the procedure. 3.0 black braided cutting suture thread passed in lesion mediolaterally at 4 point (horizontal mattress suture) (Figure 2). Suture left in place for 50 days. After 50 days, suture was removed and lesion healed completely (Figure 3). Recurrence was not reported 6 month follow-up.

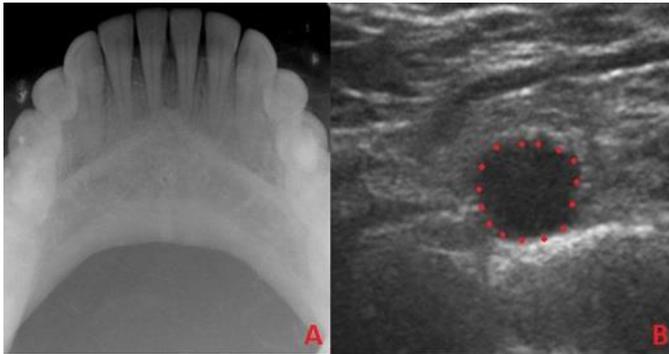


Figure 2. Mandibular occlusal radiograph (A) and ultrasonography to delineate lesion (B).

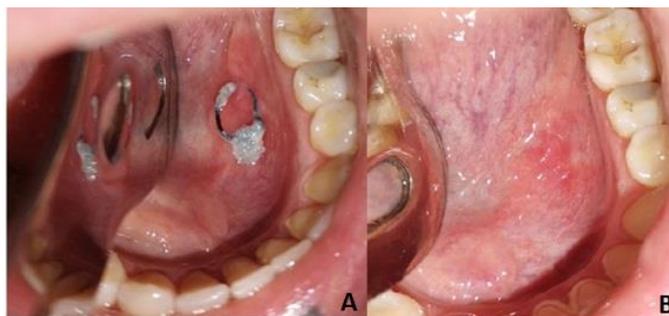


Figure 3. Suture seen at 50th days (A) and 50 days healing after modified-micro-marsupialization (B).

Discussion

Ranulas are the significant pathological lesions of the oral cavity. Selection of treatment modes are on going dilemma because of lack consensus of its' treatment.

Excision with or without sublingual gland, marsupialization, sclero therapy are the treatment of choice. Every treatment mode has its inherent advantages and disadvantages(6). In literature, authors used different suture materials (resorbable and non-resorbable) and suture techniques (simple suture and continuous suture) to modify micro-marsupialization.

Aluko et al. described their own technique and named after Bayo Aluko-Olokun. Aluko technique involves stab incision in addition to suture placement. In this way, more chance of saliva drainage can be obtained(7).

Goodson et al. asserted that strangulation of feeding unit of ranula is key for the treatment. It is known every ranula is fed by small leaking unit from salivary gland. After the aspiration of ranula, sac was strangulated and certain time need to refill sac (24-48 hours). During this process, patient recurred. Simple suture placed to prevent leaking unit fill into sac. Once the source of saliva had been eliminated, sac regressed itself naturally(4).

Hills et al. modified simple suture technique for the ligation of salivary leaking unit as described by Goodson et al. They used vertical mattress suture instead of simple suture to prevent salivary leaking into sac (4,8).

Chung et al. reviewed outcomes of the treatment of ranula. According to this recent meta-analysis, micro-marsupialization and its' modification showed cure rates similar to those of resection of gland(9).

The most important advantage of our modified micro-marsupialization technique is that the number of the sutures to marsupialize the lesion can be decreased. By doing so, infection rate around suture can be reduced during the micro-marsupialization period. Another advantage is reduced operation time.

Conclusion

Modified micro-marsupialization offers minimally invasive treatment for oral ranula. Post-operative sequelae is very low as compared to other treatment modalities.

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Consent for Publishing Photographs

Written informed consent was obtained from the patients for publication of this article and accompanying images.

Referances

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