**Case Report**

**DOUBLE TONGUE APPEARANCE OF HUGE RANULA**

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**ABSTRACT**

A ranula is a cystic, translucent lesion usually seen on the floor of the mouth. It usually occurs unilaterally, and bilateral occurrences are extremely rare. We report a case of a young girl presented huge cystic lesion on the floor of mouth diagnosed clinically as simple ranula resembling a double tongue appearance. It is associated with mild discomfort when chewing and speaking. She was successfully managed via aspiration of the ranula under local anaesthesia in a clinic setting. This case highlights the role of aspiration of ranula, which is important for immediate relief of symptoms.

**Keywords:** Ranula; Sublingual Gland; Floor of Mouth

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**Introduction**

Ranula is a mucocele in the floor of the mouth is caused by the extravasation of saliva from the sublingual gland. It can be categorised into three types: Simple ranulas present with only intraoral swelling, while a plunging ranula presents with submandibular swelling without swelling at the floor of the mouth [1], whereby a mixed ranula has swelling in both intraoral and neck [2].

**Case Report**

A 14-year-old girl presented with a history of painless, huge swelling at the floor of her mouth for four months. It was gradually increasing in size and associated with mild discomfort when chewing and speaking. However, there was no difficulty or pain during swallowing. Otherwise, she denied a previous history of intra-oral swelling, fever, trauma, difficulty in breathing, voice change, noisy breathing, or neck swelling. There was no family history of malignancy.

On general examination, she was alert but not tachypnoeic and had no stridor. The neck examination was normal. Intra-oral examination showed a huge diffuse bluish swelling measuring 5 × 4 cm on the floor of the mouth, causing superior displacement of the tongue. It resembled the second tongue, giving a double tongue appearance. The swelling was soft in consistency, non-tender and no discharge was seen (Figure 1). The flexible nasopharyngolaryngoscopy, which was performed using flexible fibre-optic endoscope at clinic through the nostril, was normal. A clinical diagnosis of ranula was established based on history and clinical examinations.

Despite being counselled for surgery, she and her mother opted for conservative management. Aspiration of the ranula was performed under local anaesthesia using a size 23-gauge needle after consent was obtained from the mother. About 15 ml of clear stringy mucous like fluid, which strongly suggested salivary origin [3], was aspirated but not sent for investigation. Immediately post aspiration, the swelling reduced significantly. Symptoms such as pain, difficulty...
chewing and talking were improved. She was discharged home with analgesic and tablet co-amoxicillin clavulanic acid 625 mg twice a day (BD) for one week with follow up appointment at clinic. A review at two months showed that the size of the ranula had slightly increased in size in comparison to post aspiration. She and her mother were counselled for excision of the ranula along with the sublingual gland, but they were not keen on surgical intervention.

Figure 1. Huge ranula resembled the second tongue on lateral (A) and anterior (B) views
Discussion

Ranula is derived from the Latin word ‘rana’, which means frog. The swollen appearance of the sublingual mucous membranes resembles the translucent underbelly of a frog, described over 1000 years ago during the Byzantine era [4].

It is formed when trauma, obstruction, or inflammation causes ruptured acini of the sublingual gland or a ruptured duct of Rivinus, resulting in leakage of salivary contents into the surrounding tissue where a fibroblastic reaction is triggered, causing mucous seals in a connective tissue sac, thus considered a type of pseudocyst [5].

Oral ranulas form within the sublingual space above the mylohyoid muscle and are commonly seen as a bluish cystic lesion below the tongue. Plunging or diving ranula occurs when the mucocele’s fluid pressure from the ruptures and dissects through the mylohyoid muscle into the submandibular or submental space [6].

Ranula typically present as a unilateral, painless mass in the floor of the mouth, which is slow-growing but can be bilateral, which is rare. Ranulas have a prevalence of about 0.2 cases per 1000 people and account for 6% of salivary mucoceles [7]. The occurrence is higher among young adults in their second and third decades, as well as in children younger than ten years, with a slight female predominance [8]. Our patient presented with a massive diffuse swelling in the floor of the mouth with no neck swelling resembling rare double tongue appearance.

A huge ranula can displace the tongue superior and medially, resulting in airway obstruction, mastication, dysphagia, and dyspnoea [9]. Fortunately, our patient had mild discomfort during swallowing and speaking without having their airway and swallowing compromised. Huge swelling in the floor of the mouth is commonly associated with Ludwig angina. However, the cystic appearance of the swelling leads us to a diagnosis of ranula. Furthermore, aspiration of the swelling may help reduce the cystic lesion with significant improvement in the symptoms [10].

Differential diagnoses for swelling in the floor of the mouth includes infections, anatomic abnormalities arising during embryonic development such as dermoid cysts, tumours, and vascular malformations in the floor of the mouth [11]. Infection was unlikely due to the absence of intraoral infection, fever, and pain. A dermoid cyst may also present with a painless swelling in the floor of the mouth. It is usually located in the midline and slow-growing.

Sublingual salivary gland tumours such as mucoepidermoid carcinoma was ruled out because of the benign nature of the lesion, which is soft and the absence of lymphadenopathy. Vascular malformations of the head and neck, specifically on the floor of the mouth, are rare. Venous malformations such as cavernous haemangiomas in the head and neck occur most frequently in the buccal space or the floor of the mouth [12]. Besides that, lymphatic malformations like cystic hygromas are most commonly located in the posterior triangle of the neck and affect the submandibular space much more frequently than the floor of the mouth. Thus, it is essential to look for other differential diagnoses because they will affect further management.

Radio-imaging techniques are useful for pre-operative diagnosis when another differential diagnosis of sublingual swellings is being considered. Ultrasonography should be the first choice because it can determine the nature of the lesion without radiograph exposure and is cost-effective. Aside from that, malignancies and vascular anomalies can manifest as cystic lesions, for which computed tomography (CT) and magnetic resonance imaging (MRI) can provide more information to help with the diagnosis [12].

Ranula is diagnose clinically by history and physical examination with supportive imaging studies. However, our patient had a huge ranula causing discomfort during chewing and speaking, so immediate intervention was performed after being diagnosed clinically without radio-imaging investigation.

Management of ranula includes non-surgical treatment or surgical treatment. Non-surgical treatment option with low rate of recurrence is intracystic injection therapy with OK-432 and Botulin Toxin Type A [13]. Several types of surgical management include [14]:

- marsupialisation of ranula with a recurrence rate of about 13%.
- excision of the ranula only, with a recurrence rate ranging from 61% to 89%. 
incision and drainage of ranula via an intraoral approach had a high recurrence rate of about 85%.

surgical excision of the plunging ranula along with the sublingual gland is considered the most appropriate management with minimal recurrence rate of 3.6%.

However, in our case, aspiration was performed in view of the patient and mother's keen for conservative management.

Conclusion

Ranula is a common disease presented with swelling in the floor of the mouth, but it can affect chewing, swallowing, and airway obstruction if it is huge in size. It is usually diagnosed clinically, but other differential diagnoses must be ruled out, such as infections and tumours. History along with radio-imaging investigation such as ultrasound, CT, or MRI is useful to rule out other differential diagnoses and provide appropriate management. In case of massive ranula causing discomfort during chewing and speaking, immediate intervention such as aspiration may help to reduce the symptoms and avoid need of emergency surgical intervention.

Reference