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Oral Pathology

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Ranula

A ranula is either a cyst or collection of fluid such as saliva as a result of disorder of major salivary glands. A ranula forms on the floor of the mouth or under the tongue. Salivary glands have ducts that open up into oral cavity constantly producing saliva. If the duct of the salivary glands is clogged or the glands themselves are damaged, saliva leaks in the surrounding tissues forming a cyst. There are two types of ranulas: simple and plunging (Quick, Lowell). Simple ranula stays in the oral cavity, which results from fluid leaking into the mylohyoid muscle. Plunging ranula extends to the neck resulting from fluid collection in fascial of the neck (Cheng 107-108).

**Etiology**

There are three major salivary glands: parotid, submandibular and sublingual salivary glands. When one of the glands are damaged or diseased, saliva leaks out forming cyst or bubble which is filled with saliva. Ranulas usually result from a damage to sublingual salivary glands but it can result from a damage to submandibular salivary glands (). There are some other causes of ranula such as Sjogren’s Syndrome, ductal stenosis, hypoplasia or neoplasia. One of the risk factors that more likely lead to the formation of ranula is anatomical changes of the ducts: when Bartholin duct connects to Wharton’s duct (Quick, Lowell).

**Diagnoses**

Ranula can be diagnosed during a physical examination by a knowledgeable physician. However, high resolution sonography can be used to diagnose ranula and assess for malignancy to a certain degree. When ranula extends to the neck area CT Scan or MRI can be used to assess the extent of the lesion before proceeding to surgical treatment. CT scan or MRI cannot be utilized to differentiate between malignant and benign so biopsy may be requested (Cheng 107-108).

**Epidemiology**

Ranulas are most likely to occur in young adults and children. Sex and race are irrelevant

**Symptoms**

Usually patients themselves, their family members, their dentist, or dental hygienist discover ranula. Clinically it presents as 2-3inch unilateral nontender bump or swelling under the tongue. Ranula can be asymptomatic or slightly painful, bluish-red in color. Sometime of the ranula is too big, it can displace the tongue causing difficulty swallowing or mastication.

**Differential Diagnosis**

Ranulas often form beneath the tongue may be similar to a lot of other conditions and must be differentiated. According to a case study “What is that in your mouth?” differential diagnosis of the lesions are: hemangioma, lymphangioma, dermoid cyst, benign or malignant salivary gland neoplasm, lipoma, abscess, venous lake, fibroma, and benign mesenchymal neoplasm.

**Treatment**

Ranula can spontaneously go away on its own, but it is very rare. There are many treatment options for ranulas. Usually, a surgical procedure is performed in which small incision is made either in the mouth or under the chin and then ranula is drained. However, in 2004 more advanced treatment that does not require a surgical intervention was developed. Percutaneous procedure showed 87.5% successfully obliteration of the ranula without any complication. In some cases, marsupialization is preferred over surgical removal of ranula. Marsupialization involves packing the cyst with gauze for 2 weeks, which will lead to re-epithelialization of the cyst. Other treatments such as laser ablation, and cryosurgery can be used as a treatment option for small ranulas. These procedures can be performed alone or with marsupialization. One of the experimental treatment options are intralesional injection with *Streptococcal* preparation, which has had variable success rates (Brannan, Sutphen, Murakami).

**Dental Hygiene Consideration**

As oral health care providers, we are trained to detect changes in the oral mucosa during an intra oral exam. Ranula is one of the conditions that can be noted during intra oral examination by either dentist or dental hygienist. Patients need to be informed about any changes in the mouth, even if the condition is within normal limits. If any suspected lesion such as ranula is noted during the exam, it is vital to inform the patient, continue to monitor the lesion, and refer to a specialist or to a biopsy if necessary. Another important step when a suspicious lesion located is to document using ABCD rule. Utilizing this rule, we will document asymmetry, border, color and diameter of ranula.

Reference

Quick CA, Lowell SH. Ranula and the Sublingual Salivary Glands. *Arch Otolaryngol*. 1977;103(7):397–400. doi:10.1001/archotol.1977.00780240055007

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