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Homoeopathic Therapeutics in treatment of Ranula

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Abstract

Ranula is one of the rarest mucocoeles that occurs on the mylohyoid muscle through the floor of the mouth present at the anterior two-thirds and typically comprise the primary salivary glands. Ranula arises ducts of the sublingual gland's Rivinus, which are located in the body of the sublingual gland, and exceptionally from the small salivary glands. This article deals with information about Ranula and its homoeopathic medicines that has great role in managing the swelling and terminating the Ranula and also helps in breaking the tendency of recurrences.

Keywords: Ranula, Homoeopathy, Therapeutics

Introduction

The Latin word Rana, which means "frog," is how the word "ranula" originates. Ranula related to little frog which looks like a bulging frog's underbelly [1]. Hippocrates told that ranula occurs a result of ongoing inflammation, while Pare' believed that the ranula was the result of the pituitary and brain tissue descent and W. Boyd described ranula as inflation of the submandibular gland's duct [2, 3]. Wiseman in his surgical textbook of 1676 mentioned that ranula appear from the lower salivary gland and can spread externally under the chin. He noted this causes a croaking speech which together resembles the oral ranula to the frog's belly, justifying the term ranula [4]. Ranula's precise origin remained unknown until the beginning of the 20th century, when Suzanne and Von Hippel proposed the removal of the sublingual gland and ranula after concluding that it originates from the sublingual gland [5]. Morestin discovered the cause of the plunging ranula, which explained how a tear in the mylohyoid muscle causes the pieces of the sublingual gland that make up the ranula to herniate [6]. Rare mucocoeles called ranulas typically affect the primary salivary glands [7]. Like mucocoeles, ranulas also are of 2 types: cervical/plunging ranulas and oral ranulas. The primary salivary glands secretions from above the mylohyoid muscles ooze out and gather, giving rise to the oral ranulas. Mucus builds up along the neck's fascial planes, causing cervical/plunging ranulas [8, 9]. The origin of ranula is similar to mucocoeles which is due to trauma of the excretory duct of the major salivary glands which is one of the major cause and blockage of the duct blocked by a sialolith or mucus plug, which is less typical [10]. Chronic inflammation (such sarcoidosis and Sjogren syndrome), infection (HIV), ductal hypoplasia, ductal stenosis, ductal agenesis, and ductal neoplasia are additional causes of ranulas. Defects in the ductal system of the sublingual gland can increase the risk of ranula. The risk increases when the Wharton duct empties into the Bartholin duct [11].

Epidemiology of Ranula [12, 13]

The frequency of mucocoeles is 2.4 cases per one thousand person, present from 3-20 age group, with the highest percentage (70%). On the other side, Ranulas occur 0.2 cases per one thousand person. Like mucocoeles, ranulas also affect teenagers and young adults. The most typical site is the floor of the mouth of ranula to develop. Though majority of the ranulas arise from the sublingual glands (90%), but in rare cases can also appear from the submandibular gland. Racial or sexual predominance don't play any role in occurrence for these lesions.

Clinical Anatomy

There is no fascial or capsule sheath around the sublingual gland, although there is areolar tissue there between the mylohyoid muscle and the floor of the mouth. [14] The smaller

sublingual gland, which consists of 15 to 30 distinct microscopic glands, is always present. Everyone has access to the little Rivinus duct's vertical extension, which leads to the plica sublingualis^[15]. Between the smaller sublingual gland anterolateral and Wharton's duct medially, there is an uncommon and primarily unilateral greater sublingual gland. Bartholin's duct originates from the bigger sublingual gland and connects with Wharton's duct or moves parallel and opens adjacent to it at the caruncula sublingualis^[14, 15]. The uncinated process of the submandibular gland is generally situated above the mylohyoid muscle and may be separate from or continuous with the main submandibular gland. Normally, the sublingual gland's posterior section and the uncinated process of the submandibular gland combine^[14, 15]. The mylohyoid muscle's diaphragm regularly gives out between the sublingual and submandibular regions. The sublingual gland's acinar cells, which are mucous glands, resemble serous acinar cells during the start of the secretory cycle^[16, 17].

Pathophysiology of Ranula Formation

The fundamental pathophysiology causing ranula development is the restriction of salivary gland secretion flow. The most frequent reason why mucus is driven into the surrounding tissue and accumulates there is trauma.^[17] Another reason for the appearance of ranula is the blockage in the excretory duct of salivary glands secondary to periductal scarring, fibrosis or tumour^[17]. An extravasation mucocele known as a ranula can develop from the sublingual gland as a result of a burst main duct or acing after blockage^[18, 19]. An inflammatory reaction is produced by extravagated mucus in which macrophages break down the organic component, that lets Granulation tissue creates fibrous tissue, which restricts extravasation and occasionally plugs the leak, allowing the water and inorganic components to drain in the lymphatic's^[18, 19]. With the exception of the von Ebner glands, the small salivary glands are all mucous glands and have a histological and functional resemblance to the sublingual gland^[19].

Clinical Presentation

Oral ranula patients typically accompanied by a painless swelling on the floor of the mouth. As a result of the tongue's upward and medial movement, this enlargement can make it difficult to talk, chew, deglutinate, and even breathe^[20]. Sometimes, tongue can apply pressure on the lesion which interrupts the flow of saliva, thus cause obstruction to the salivary glands^[21]. However, cervical ranula appear as an asymptomatic neck mass. Usually, a lesion is caused by dental surgery or trauma to the mouth's floor^[20, 21]. The bottom of the mouth has a massive, cystic, transparent to blue swelling. That resembles a frog's belly is what is known as an oral ranula^[22]. Like mucoceles, which do not blanch when compressed and have a soft consistency^[23]. Cervical or plunging ranulas present as a soft, asymptomatic mass in the neck that moves around and expands^[24]. Similar to oral ranulas, they mainly appear unilaterally but can cross the midline.

Diagnosis^[25-27]

Clinical images are used to diagnose oral ranula. Imaging tests are not advised for the evaluation of oral ranulas; instead, they should only be used to rule out other diagnoses, determine the source and degree of swelling, and

assist with surgery.

- **Ultrasonography:** High-resolution ultrasonography is able to distinguish between benign and malignant tumours as well as find cysts and abscesses up to 90%^[25].
- **CT scan and MRI:** They are only ever necessary when there is a significant cervical or plunging ranula that has penetrated a mylohyoid muscle defect. Additionally, they assist in determining the swelling's extent, which is crucial to know before surgery^[26].
- **Biopsy:** Making the distinction between benign and malignant disease is beneficial^[27].

Homoeopathic Therapeutics^[28-31]

Thuja Occidentalis: Ranula on both sides of tongue – transparent, bluish red, grey, and, as it were, gelatinous. Ranula with excess of venosity everywhere.

Ambra Grisea: Ranula with fetid breath. Dryness of mouth without thirst.

Calcarea Carbonica: Ranula under mouth, persistent sour taste.

Ferrum phosphoricum: Ranula in vascular, sanguine constitutions.

Staphysagria: Ranula. Mouth and tongue covered with vesicles. Tongue - white coated, dry with tough mucous at posterior nares.

Nitricum Acidum: Ranula. Salivation also with ulcers on the fauces. Great dryness of the mouth with burning thirst. Tongue sensitive even to soft food which causes smarting.

Natrum Muriaticum: Swelling under tongue, with stinging pain, ranula. Deep crack in the middle of the lower lip.

Mezereum: Ranula aggravated by talking and chewing, ejects watery fluid.

Mercurius Solubilis: Ranula with salivation and sore gums.

Lac Caninum: Swelling of sublingual gland, ranula. Roof of mouth very sore, with blisters. Mouth and covered with aphthous yellowish and white ulcerations which bleeds easily.

Chromicum Acidum: It is used to treat ranula. It is a powerful antiseptic. It has metallic taste in mouth and prickling in tongue.

Lyssinum: Ranula returns periodically, with dryness of mouth, aggravation in afternoon, soreness when chewing with haemorrhoids and constipation.

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