An Atlas of Lumps and Bumps: Part 13

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Ranula

A ranula is a large mucus-containing, cyst-like mass caused by extravasation and accumulation of mucus from a major salivary gland (most commonly the sublingual salivary gland) into the surrounding tissue in the floor of the mouth.[1-4] The condition can be congenital or iatrogenic.[2,5] Congenital ranulas may result from an imperforate salivary duct or ostial adhesion.[4] Iatrogenic ranulas may result from trauma to or obstruction of an excretory duct of a major salivary gland.[2,6] Because ranulas are lined with granulation tissue instead of epithelium, they are considered a type of pseudocyst.[1,4]

The prevalence rate of ranulas is 2 cases per 10,000 persons.[3,5,6] Individuals in their second and third decades of life are more commonly affected.[2,4,7] The sex ratio is approximately equal.[2,6] There is no racial predilection.[6]

Figure 1.

Typically, a simple (or intraoral) ranula presents as a slow-growing, thin-walled, translucent to bluish, fluctuant, painless, round or oval swelling in the floor of the mouth that resembles the belly of a frog **(Figures 1 and 2)**.[3,5,6] In fact, the term "ranula" is derived from the Latin word "rana," meaning belly of the frog.[4] Large lesions might lead to speech impairment, difficulty with mastication, dysphagia, and rarely, airway blockage and obstructive sleep apnea.[2,3]

Figure 2.

A plunging (or cervical) ranula occurs when a portion of the sublingual gland herniates through a dehiscence in the mylohyoid muscle with its extravasated mucin into the submandibular and submental space.[1,7,8] Typically, a plunging ranula presents as an asymptomatic, fluctuant to soft cervical mass without swelling of the floor of the mouth. The swelling is usually unilateral but may cross the midline.[6] A mixed ranula, on the other hand, presents with both intraoral and cervical swelling.[1]

Mucocele

Mucoceles are the most common mucus cyst occurring in the oral cavity.[9,10] The incidence in the general population is estimated to be 0.2.%.[6] A mucocele is caused by a traumatic severed or blocked duct of a minor salivary gland.[6,11,12] A traumatic severed duct of a minor salivary gland is most often caused by lip biting during chewing, habitual lip biting, or accidental injury to the lip.[6,9,13] This leads to extravasation and accumulation of mucin in submucous tissue, referred to as an extravasation mucocele.[10] The extravasated mucin is surrounded by condensed connective tissue with a

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Figure 3.

Figure 4.

variable amount of inflammation.[10,14] No epithelial lining is present.[15] The lower lip is the most frequent site of the extravasation cyst because it is the area most often susceptible to trauma.[13,16] A retention mucocele, on the other hand, results from obstruction of the duct of a minor salivary gland.[10,17] The obstruction may be caused by epithelial proliferation, trauma, or a sialolith.[18,19] The trapped mucus is lined by columnar or cuboidal ductal epithelium.[14] Approximately 90% of mucoceles are extravasation mucoceles and the remaining 10% retention mucoceles.[20]

Mucoceles affect patients of all ages with peak incidence in the first and second decades of life.[10,20] Both sexes are equally affected.[15,17,20] There is no racial predilection.[19]

Typically, a mucocele, irrespective of its etiology, presents as an asymptomatic, fluctuant, tense, well-circumscribed, dome-shaped swelling or nodule on the mucosal surface of the lip (**Figures 3 and 4**).[10,16,21] More than 70% of cases occur on the lower lip.[22] Less commonly, the mucocele occurs on the upper lip and buccal mucosa. The size of the lesion ranges

Figure 5.

Figure 6.

from a few millimeters to a few centimeters in diameter.[18] The color ranges from deep blue to pink (the color of normal mucosa).[15,20,21] A mucocele may fluctuate in size and rupture spontaneously.[19] Lesions are usually solitary but can be multiple **(Figure 5)**.[23]

Occasionally, mucoceles may occur on the floor of the mouth, soft palate, hard palate, and tongue.[12,20,22,24] The occurrence on the tongue accounts for approximately 2% of cases.[25] Rarely, a mucocele may arise on the ventral surface of the tongue and is known as mucocele of the gland of Blandin-Nuhn.[14,26] The glands of Blandin-Nuhn are located in the anterior ventral surface of the tongue.[14,16,20,27] These glands are arranged in a mass with a horseshoe shape and covered by thin mucous membrane.[14,16] In most cases, a mucocele of the gland of Blandin-Nuhn results from a self-inflicted bite wound.[16,27] The lesion is usually less than 1 cm in diameter. Rapid onset, fluctuation in size, bluish discoloration and fluid-filled consistency are characteristic.[25] A superficial mucocele, a rare subtype of the mucocele of the gland of Blandin-Nuhn, may present as a translucent fluid-filled vesicle or cyst **(Figure 6)**.[28,29] The lesion ruptures easily and may leave a slightly painful erosion, which usually heals within a few days.

The diagnosis of oral mucoceles is mainly clinical. Depending on the size and location, a mucocele can become cosmetically unsightly.[9] A mucocele may persist for weeks or months before it ruptures spontaneously. Recurrence is common and may lead to fibrosis.[10]

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