Painful Bump in Floor of Mouth

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Online Case: *www.dentalcare.com/en-us/professional-education/case-challenge/case-challenge-054*

The following Case Challenge is provided in conjunction with the UT Health San Antonio School of Dentistry faculty.

Case Summary

A 62-year-old female presents with a chief complaint of, “I keep biting a bump in my mouth.”

After you have finished reviewing the available diagnostic information, make the diagnosis.

Diagnostic Information

History of Present Illness

Carmen is a 62-year-old Hispanic female who reports with a chief complaint of, "I keep biting a bump in my mouth." She has been aware of the lesion for the past 4 months and another dentist advised her it would "eventually" go away.

Medical History

- Adverse drug effects: none
- Medications: metformin, glipizide, losartan, Lipitor, naproxen, Lexapro, amitriptyline, Allegra (prn)
- Pertinent medical history: diabetes type 2; hypercholesterolemia; anxiety/depression; osteoarthritis; seasonal allergies
- Pertinent family history: unknown, adopted
- Social history: 50 pack year history cigarettes, stopped age 55; 1 six pack of beer / week; denies recreational drug exposure

Clinical Findings

- BP: 156/72
- Pulse: 91
- Extra-Oral: TMJ normal, no muscle tenderness, no lymphadenopathy
- Intraoral: A well-defined firm hyperkeratotic mass is noted originating from the FOM overlying the L sublingual fold (~ 1 cm x 1.5 cm) adjacent to #20. The mass has a distinct indentation that corresponds well with the lingual aspect #20 (Figures 1 and 2). An excisional biopsy is performed and the tissue submitted for histopathologic examination.

Figure 1. Anterior view of occlusion.

Figure 2. Ulcerated mass arising from the lower left aspect of the floor of the mouth.

Histopathologic Findings

Sections show an ulcerated inflamed mucosal soft tissue fragment exhibiting a fibrinopurulent surface exudate with underlying acute and chronically inflamed edematous congested granulation tissue and deeper zone of vascular fibroplasia extending into atrophic skeletal muscle (Figure 3). There are numerous interspersed small-caliber to ectatic thin-walled vascular channels lined by plump reactive endothelial cells. The inflammatory infiltrate consists of neutrophils, eosinophils, lymphocytes, plasma cells and histiocytes (Figure 4). The specimen is partially surfaced by reactive stratified squamous epithelium exhibiting hyperplasia with elongated rete ridges, acanthosis, spongiosis, exocytosis, intracellular edema and hyperparakeratosis. There are proliferative epithelial changes with increased basal cellularity, slightly disordered maturation, inflammatory atypia, dyskeratosis and mitotic activity.

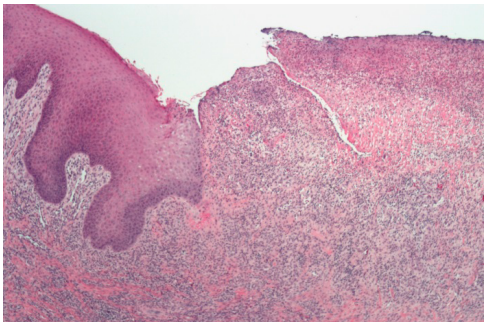

Figure 3. Low power image of specimen showing an ulcerated mucosal soft tissue fragment with fibrinous exudate and underlying inflamed granulation tissue. The adjacent epithelium displays hyperplasia and thin hyperkeratosis.

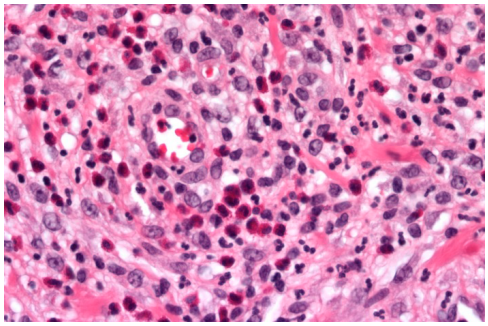

Figure 4. High power image of specimen demonstrating inflamed granulation tissue with acute and chronic inflammatory infiltrate containing numerous eosinophils.

Select Diagnosis

Can you make the diagnosis

A 62-year-old female presents with stating, "I keep biting a bump in my mouth."

Select the Correct Diagnosis

A. Squamous cell carcinoma
B. Ulcerated fibroma
C. Traumatic ulceration/granuloma
D. Ulcerated pyogenic granuloma

Squamous cell carcinoma

Choice A. Sorry, this is not the correct diagnosis.

Squamous cell carcinoma is the most common primary malignancy of the oral mucosa. The majority of cases arise in elderly individuals and a male sex predilection is noted. Most patients have a significant past medical history of tobacco and alcohol use although other less common risks factors have been identified. The earliest precursors of oral squamous cell carcinoma are leukoplakia and erythroplakia.[1-2] With time, these lesions become exophytic or endophytic and often demonstrate surface ulceration. The most common intraoral locations for squamous cell carcinoma are the posterior ventral-lateral tongue and floor of the mouth. The oropharyngeal area (base of tongue, tonsils, soft palate, and pharyngeal wall) are also common sites of involvement. Depending on the location of the tumor metastatic spread to adjacent ipsilateral or contralateral cervical lymph nodes may occur. Metastatic spread is more common in tumors located in the posterior regions of the oral cavity. Histopathologic examination reveals dysplastic surface stratified squamous epithelium exhibiting transition to an infiltrating malignant epithelial neoplasm. The malignant epithelial cells demonstrate nuclear enlargement and pleomorphism, nuclear hyperchromaticity, atypical mitotic figures, and individual cell keratinization. Infiltration into striated muscle, vascular channels, and nerve bundles often occurs. Treatment is dependent upon the results of clinical staging and may include a combination of wide surgical excision, radiation therapy, or combined chemoradiation therapy.[3-4] Although this patient's medical history and the clinical findings are worrisome for a squamous cell carcinoma, the histopathologic features do not support this diagnosis.

Please re-evaluate the information about this case.

Ulcerated fibroma

Choice B. Sorry, this is not the correct diagnosis.

A fibroma is a sessile based, firm, smooth surfaced mass that usually occurs in response to trauma or irritation. Fibromas may occur at any age but are more common in adults and a male sex predilection is noted. Most fibromas are less than 1 - 1.5 cm in size. Although any oral mucosal site may be affected, most fibromas arise on the buccal mucosa, labial mucosa, or lateral tongue since these sites are easily traumatized. Fibromas are asymptomatic and have an intact overlying mucosa. If the lesion is repeatedly traumatized, the overlying mucosa may be ulcerated and the patient will complain of pain.[5] Histopathologic examination reveals a nodular mass of mature fibrous connective tissue with intact overlying surface stratified squamous epithelium. If a surface ulceration is present, the nodular mass will be covered with fibrin interspersed with neutrophils and an acute and chronic inflammatory infiltrate will be noted in the underlying connective tissue. A fibroma should be surgically excised and recurrence is uncommon.[3] Based on the histopathologic findings presented, a fibroma is incorrect.

Please re-evaluate the information about this case.

Traumatic ulceration/granuloma

Choice C. Congratulations! You are correct.

A traumatic ulceration/granuloma is a common lesion that occurs on the buccal mucosa, labial mucosa, and lateral tongue in response to trauma. Common initiating events are bite trauma, broken restorations or tooth cusps, and broken dental prostheses. Traumatic ulcerations/granulomas may occur at any age but are more common in adults and a male sex predilection is noted. These ulcerations may last from a few weeks to many months. Lesions vary in size but all are characterized by a removable, central grey pseudomembrane. The periphery of the ulceration may be flat or may be elevated with a rolled margin.[6-7] Histopathologic examination reveals a surface ulceration composed of fibrin interspersed with neutrophils. The connective tissue underlying the area of ulceration is highly vascularized (granulation tissue) and contains a dense acute and chronic inflammatory infiltrate, including numerous eosinophils. The eosinophils often extend into the underlying striated muscle bundles. Treatment consists of identifying and resolving the cause and close follow-up examination. If the ulceration does not heal following removal of the cause, a biopsy should be performed to rule-out another reason for the ulceration.[3] Recurrence is uncommon.

Ulcerated pyogenic granuloma

Choice D. Sorry, this is not the correct diagnosis.

A pyogenic granuloma (cellular lobular capillary hemangioma) represents a reactive fibrovascular proliferation secondary to local irritation or trauma. These lesions arise most often on the gingival mucosa but may also occur on any oral mucosal site. A reddish to bluish smooth surfaced or ulcerated mass is noted. A pyogenic granuloma may occur at any age and a female sex predilection is noted. Precipitating causes include irritation from a popcorn kernel or tip of a toothpick, or trauma from an overhanging or over-contoured restoration, broken prostheses, or plaque and calculus accumulation.[8-9] Histopathological examination reveals a nodular proliferation of markedly well-vascularized fibrous connective tissue interspersed with acute and chronic inflammatory cells. Areas of hemorrhage and hemosiderin are noted. The overlying surface stratified squamous epithelium may be intact or may be ulcerated and covered by fibrin interspersed with neutrophils. Treatment consists of surgical excision and meticulous scaling and root planing of adjacent teeth when a pyogenic granuloma arises on the gingiva. Even with appropriate treatment, recurrence occurs in approximately 20% of cases.[3] The histopathologic findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

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