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Painful Ulceration on Soft Palate

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

A 64-year-old male presents with increasing pain involving the left soft palate and irritation in the left eye.

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

Diagnostic Information

History of Present Illness

Mr. Payton is a 64-year-old male who presents with a one month history of increasing pain involving the left soft palate area. The patient complains of pain when swallowing. He also complains of "irritation" in his left eye. The patient denies skin lesions. A review of his medical history reveals:

Medical History

- Adverse drug effects: no known drug allergies
- Medications: felodipine, pravastatin
- Pertinent medical history: hypertension; hypercholesterolemia; prostate cancer
- Pertinent family history: paternal deceased; maternal deceased
- Social history: social drinker; non smoker

Clinical Findings

Extraoral examination is unremarkable except for an area of scar tissue formation (symblepharon) between the lateral palpebral and bulbar mucosa in the left eye (Figure 1). Intraoral examination reveals an irregular area of ulceration at the junction of the hard and soft palate on the left side. The ulceration measures approximately 1.0 x 0.5 cm and is surrounded by erythema (Figure 2). An incisional biopsy is performed of the oral lesion and the tissue is submitted for histopathologic examination.



Figure 1. Scar tissue formation (symblepharon) between the lateral palpebral and bulbar mucosa in the left eye.



Figure 2. Ulceration at the junction of the hard and soft palate on the left side.

Histopathologic Findings

Histopathologic examination reveals normal appearing surface stratified squamous epithelium and underlying fibrous connective tissue. Subepithelial cleavage at the level of the basement membrane is noted. The maturation of the surface epithelium is within normal limits. The underlying connective tissue is wellvascularized and contains scattered acute and chronic inflammatory cells (Figures 3-4).



Figure 3. Low power histologic image of subepithelial cleavage at the level of the basement membrane.



Figure 4. High power histologic image of subepithelial cleavage at the level of the basement membrane. Inflammatory cells are note din the connective tissue.

Select Diagnosis

Can you make the diagnosis

A 64-year-old male presents with increasing pain involving the left soft palate and irritation in the left eye.



Select the Correct Diagnosis

- A. Mucous membrane pemphigoid
- B. Pemphigus vulgaris
- C. Lichen planus
- D. Chronic ulcerative stomatitis

Mucous membrane pemphigoid

Choice A. Congratulations! You are correct.

Mucous membrane pemphigoid (MMP) is a chronic vesiculobullous disease that affects any mucous membrane. The disease occurs in adults and a female sex predilection is noted. Mucous membrane pemphigoid represents a type II hypersensitivity reaction and antibodies (usually IgG) and C3 are produced against components of the basement membrane causing the surface epithelium to detach from the underlying connective tissue. Although any oral mucosal surface may be affected, MMP most commonly involves the attached gingiva where it presents as desquamative gingivitis. Desquamative gingivitis is characterized by erythematous, painful gingiva.¹ This clinical appearance may also be seen in erosive lichen planus and pemphigus. Other clinical manifestations include blisters, erosions, and ulcerations. A positive Nikolsky sign is noted - the ability to induce a blister with applied pressure. Eye involvement occurs in 25% of patients and is most commonly seen as symblepharon - fibrous adhesions between the bulbar and palpebral conjunctiva.²⁻³ Histopathologic examination reveals a split at below the basement membrane between the surface epithelium and the underlying connective tissue. Direct immunofluorescence demonstrates the linear deposition of IgG, IgA, IgM, and/or C3 at the level of the basement membrane. Indirect immunofluorescence is not useful since circulating antibodies are rare.³ Treatment consists of topical or systemic corticosteroids, or niacinamide and tetracycline.⁴ Gingival involvement requires meticulous oral hygiene. All patients with MMP should be evaluated by an ophthalmologist on a yearly basis.

Pemphigus vulgaris

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

Pemphigus vulgaris (PV) is a chronic vesiculobullous disease that affects the skin and mucous membranes. The disease predominantly occurs in adults and no sex predilection is noted. Like mucous membrane pemphigoid (MMP), PV represents a type II hypersensitivity reaction. Antibodies (usually IgG) and C3 are formed against the intercellular cement substance that holds individual squamous epithelial cells together. The subsequent separation of the individual squamous epithelial cells is known as acantholysis. Any oral mucosal surface may be affected. Because of the fragility of the oral mucosa, blisters are rarely seen. Patients usually present with painful erosions or ulcerations or desquamative gingivitis.³⁵ A positive Nikolsky sign (the ability to induce a blister with applied pressure) is also seen. Oral mucosal involvement typically precedes skin manifestations. Erosions and blisters may be seen on any cutaneous surface. Histopathologic examination reveals intraepithelial separation between individual squamous epithelial cells (acantholysis). The blisters that are created contain individual epithelial cells (Tzanck cells). The basal layer is attached to the underlying connective tissue which contains an acute and chronic inflammatory infiltrate. Direct immunofluorescence demonstrates the intercellular deposition of IgG, IgA, IgM, and/or C3 in a chicken-wire pattern. Indirect immunofluorescence utilizing the patient's serum will often contain circulating antibodies and is used to monitor disease progression. Treatment consists of systemic corticosteroids with or without immunosuppressive drugs. With appropriate therapy the prognosis is good but relapse is common.³⁶ The histopathologic findings in this case, along with the ocular findings, do not support this diagnosis.

Please re-evaluate the information about this case.

Lichen planus

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

Lichen planus (LP) represents a common T-cell mediated immunologic disorder that involves the skin and mucous membranes. The disease affects adults and a female sex predilection is noted. Skin involvement is characterized by the presence of multiple pruritic, polygonal, purple, papules common seen on the shins, forearms, and dorsal surfaces of the hands. The papules may be covered by small, radiating, white lines (Wickham striations). Oral involvement occurs in one of three main forms: reticular, erosive, and desquamative gingivitis. The reticular form is most common and presents as radiating white lines (Wickham striations) on the buccal mucosa in a bilateral distribution. The reticular form is asymptomatic due to hyperkeratosis and a thickened mucosal barrier. The erosive form is characterized by painful erosions or ulcerations that may or may not demonstrate radiating white lines at the periphery. Desquamative gingivitis appears similar to that seen in mucous membrane pemphigoid and pemphigus vulgaris - a fiery red, painful gingiva.³⁷⁸ No Nikolsky sign is seen in LP. Histopathologic examination reveals surface epithelium with a thickened overlying layer of keratin. The basal cell layer is destroyed leading to saw tooth rete peg formation. Necrotic keratinocytes are seen in the lower levels of the epithelium. The underlying connective tissue contains a dense, band-like chronic inflammatory infiltrate that hugs the epithelium. Direct immunofluorescence demonstrates a linear and shaggy deposition of fibrinogen at the level of the basement membrane. Treatment consists of topical corticosteroids and the prognosis is good.²⁶⁻⁸ The histopathologic findings in this case, along with the ocular findings, do not support this diagnosis.

Please re-evaluate the information about this case.

Chronic ulcerative stomatitis

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

Chronic ulcerative stomatitis (CUS) is a chronic ulcerative disease that affects the oral mucosa. The etiology of the disease is unknown but it bears striking clinical similarities to erosive lichen planus. The disease typically occurs in adult women and presents as desquamative gingivitis. Other oral mucosal sites may demonstrate painful ulcerations with surrounding erythema.³⁹ Histopathologic examination reveals features similar to those seen in lichen planus. Loss of the basal cell layer, saw tooth rete pegs, and necrotic keratinocytes are noted. The underlying superficial connective tissue contains a dense band-like infiltrate of lymphocytes admixed with plasma cells. In lichen planus this inflammatory infiltrate is predominantly lymphocytes. Direct immunofluorescence for CUS is different than what is seen in lichen planus. In CUS antibodies against the nuclei of squamous epithelial cells are deposited in the lower levels of the surface epithelium.³⁹ These same antibodies are present with indirect immunofluorescence. Chronic ulcerative stomatitis does not respond to treatment with topical corticosteroids. The treatment of choice is hydroxychloroquine - an antimalarial drug.³ The diagnosis of CUS is often overlooked but should be considered in any patient that demonstrates clinical features of lichen planus but they do not respond to topical corticosteroids.¹⁰ The histopathologic findings in this case, along with the ocular findings, do not support this diagnosis.

Please re-evaluate the information about this case.

References

- 1. Sultan AS, Villa A, Saavedra AP, et al. Oral mucous membrane pemphigoid and pemphigus vulgaris-a retrospective two-center cohort study. Oral Dis. 2017 May;23(4):498-504. doi: 10.1111/ odi.12639. Epub 2017 Feb 22.
- 2. Chan LS. Ocular and oral mucous membrane pemphigoid (cicatricial pemphigoid). Clin Dermatol. 2012 Jan-Feb;30(1):34-7. doi: 10.1016/j.clindermatol.2011.03.007.
- 3. Neville BW, Damm DD, Allen CM, et al. Oral and Maxillofacial Pathology. 4th ed. St. Louis, MO. Elsevier. 2016.
- 4. Chaidemenos GC. Tetracycline and niacinamide in the treatment of blistering skin diseases. Clin Dermatol. 2001 Nov-Dec;19(6):781-5.
- 5. Mignogna MD, Lo Muzio L, Bucci E. Clinical features of gingival pemphigus vulgaris. J Clin Periodontol. 2001 May;28(5):489-93.
- 6. Black M, Mignogna MD, Scully C. Number II. Pemphigus vulgaris. Oral Dis. 2005 May;11(3):119-30. doi: 10.1111/j.1601-0825.2005.01139.x.
- 7. Au J, Patel D, Campbell JH. Oral lichen planus. Oral Maxillofac Surg Clin North Am. 2013 Feb;25(1):93-100, vii. doi: 10.1016/j.coms.2012.11.007.
- 8. Le Cleach L, Chosidow O. Clinical practice. Lichen planus. N Engl J Med. 2012 Feb 23;366(8):723-32. doi: 10.1056/NEJMcp1103641.
- 9. Carlson MW, Garlick JA, Solomon LW. Chronic ulcerative stomatitis: evidence of autoimmune pathogenesis. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2011 Jun;111(6):742-8. doi: 10.1016/j.tripleo.2010.12.020. Epub 2011 Apr 1.
- 10. Feller L, Khammissa RAG, Lemmer J. Is chronic ulcerative stomatitis a variant of lichen planus, or a distinct disease? J Oral Pathol Med. 2017 Nov;46(10):859-863. doi: 10.1111/jop.12561. Epub 2017 Mar 11.

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Anne Cale Jones graduated from the University of Alabama in 1981 with the Bachelor of Science degree (Magna Cum Laude) in Natural Sciences. She received a Doctor of Dental Surgery degree (Magna Cum Laude) from the Medical College of Virginia, Virginia Commonwealth University in 1986. Following a three-year residency program in Oral and Maxillofacial Pathology at Booth Memorial Medical Center in Queens, New York, Dr. Jones joined the faculty at the University of Florida, College of Dentistry. In 1998, she became a faculty member at The

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