



Providing Adapted Care for Patients with Immune-mediated Mucous Membrane Conditions

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ABSTRACT

Background: Immune-mediated diseases frequently manifest in the oral mucosa, which may be the first clinical sign for many patients.¹ Some of these diseases present in ways that are pathognomonic (specific) for the condition; however, others have signs and symptoms that may appear very similar to systemic conditions unrelated to immune-mediated diseases. Thus, differential diagnosis can prove difficult. This case study examines a 50-year-old African-American female with co-diagnoses of Lichen Planus and Mucous Membrane Pemphigoid. These immune-mediated diseases affect the oral mucosa, causing the patient pain and burning sensations within the mouth. The symptoms associated with these conditions make maintenance of good oral hygiene difficult for the patient.

Objectives: The objective of this case study was to explore Mucous Membrane Pemphigoid and Lichen Planus: the clinical and histological presentations, the implications for dental treatment, and the best proven therapies for management. Methods utilized during treatment will be presented.

Methods: The patient presented to the IU School of Dentistry Dental Hygiene Clinic for routine periodontal maintenance and examination. The sensitive nature of the patient's oral mucosa due to Lichen Planus and Mucous Membrane Pemphigoid required employment of alternative methods to routine dental care. Modifications to the patient's diet and home oral care routines were suggested.

Conclusion: Oral health providers should be conscious of the clinical manifestations of Lichen Planus and Mucous Membrane Pemphigoid, in addition to other oral conditions. Likewise, providers should be adept at altering routine dental care methods to accommodate patients with these and other immune-mediated conditions. If clinical treatment and oral care are administered properly, the patient should experience alleviated symptoms and suffer less discomfort and sensitivity on a day-to-day basis and during dental assessment and treatment.

INTRODUCTION

A 50-year-old African American female presented with a chief concern (CC) of receiving a dental cleaning and examination. The patient was due for periodontal maintenance and a periodic oral examination by a DDS. Although the patient was on a three month recall system, at the time of the initial assessment in the Dental Hygiene Clinic of IUSD, the patient had not received hygiene care for over seven months. Upon review of the patient's medical history, it was noted that she had been previously diagnosed with Mucous Membrane Pemphigoid and Lichen Planus. Generalized oral sensitivity and oral lesions have plagued the patient in the past, but during initial visits no visible lesions or hypersensitivity were present. The patient later presented with manifestations of disease during the dietary analysis phase of treatment as documented by photos. As described in a 2015 review from the International Journal of Dermatology, Oral Lichen Planus is "an inflammatory chronic disease of the skin and mucosae and is one of the most frequent dermatological diseases of the oral cavity."¹ Lesions are "chronic, potentially pre-malignant, causing frequent morbidity, and rarely remit spontaneously."¹ Mucous Membrane Pemphigoid is an "autoimmune, chronic, bullous, subcutaneous disease characterized by the formation of painful bullae, predominantly on the mucosa, with or without skin involvement, and there is a tendency to form scars," which leads to the other name for the disease, Cicatricial Pemphigoid.¹

PATIENT'S CLINICAL MANIFESTATIONS



Figure A: Gingival Tissues – erythematous and sensitive with bullae present



Figure B: Buccal Mucosa – manifests cicatrix (scarring) characteristic of Mucous Membrane Pemphigoid

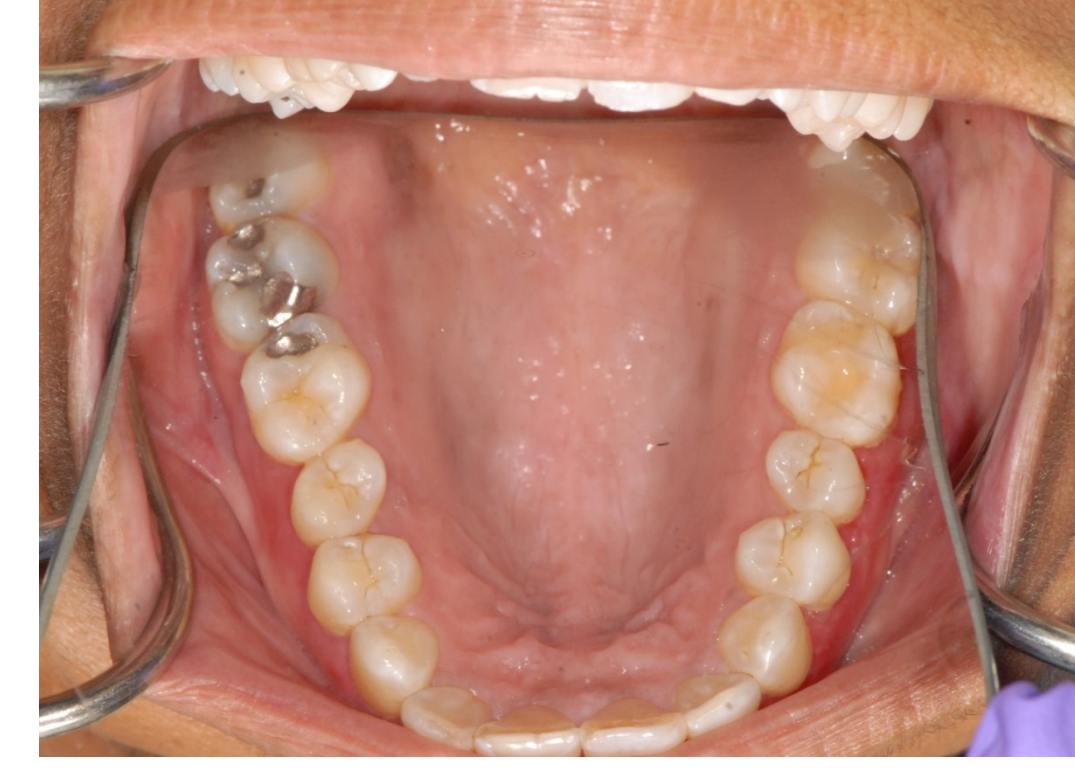


Figure C: Maxillary Vestibules and Palate – Wickham's Striae characteristic of Reticular Lichen Planus



Figure D: Fissured Tongue – evidence of xerostomia and consequent hypersensitivity



Figure E: Mandibular Vestibule and Gingiva – evidence of bullae at the gingival margin of #27 & 28

ASSESSMENT

The patient presented with generalized moderate non-plaque induced gingivitis. The plaque score was assessed sans disclosing solution to avoid gingival irritation – visual and tactile evaluation determined a plaque score of 41% reduced to 35% between initial and final visits, respectively. Generalized healthy periodontium was evidenced by Clinical Attachment Levels (CAL) of 1-3mm. Localized mild chronic periodontitis was evidenced by CAL of 4-5mm at teeth #15 and #30. Radiographically, bone levels appeared healthy with no measurements exceeding 3mm from cemento-enamel junction (CEJ) to the alveolar bone.

DIETARY ANALYSIS

Using the Diet History Questionnaire II from the National Institute of Health, an analysis of the patient's dietary intake was assessed.² Some of the patient's dietary exclusions were due to known or anticipated triggers to symptoms; however, other foods were avoided due to gastric problems and still others were excluded simply because of patient preference. Acidic fruits and fruit products such as citrus fruits or juices, tomatoes, and tomato sauces or ketchup were avoided due to the patient's sensitive oral mucosa. Similarly, spicy foods were reported to irritate the patient's tissues and stomach. The patient reported avoiding many dairy products due to gastric symptoms. For personal reasons, the patient also avoided many breads and all pork products. Because of the selective nature of the patient's diet, it was assessed that she was not maintaining a well-balanced nutrition. The patient was encouraged to include more fruits, vegetables, and whole grains, and to consider a women's multivitamin and other supplements, such as a Grapeseed Extract supplement. Literature suggests that fruit and vegetable consumption, specifically citrus fruits, can help prevent oral and pharyngeal cancers.³ Avoidance of these food groups can increase the patient's cancer risk over time.³ This patient was encouraged to increase fruit and vegetable consumption to counteract the risk of cancer and disease.

REFERENCES

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2. Diet History Questionnaire II. National Cancer Institute 2014. "http://appliedresearch.cancer.gov/archive/dhq2/dhq2_pastmonth_noportion.pdf". Accessed March 18 2015.
3. Czerninski R, Zadik Y, Kartin-Gabbay T, Zini A, Touger-Decker R. Dietary alterations in patients with oral vesiculoulcerative diseases. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2014;117(3):319-23.

DH CARE PLAN

Patient consented to the following:

- Medical History
- Intra/Extra Oral Assessment
- Hard Tissue Evaluation
- Caries Risk and Management
- Dietary Counseling
- Oral Hygiene Instruction
- Adult Prophylaxis – D1110
- Tray Fluoride Application – D1208

HISTOLOGICAL FINDINGS OF THE PATIENT'S GINGIVAL BIOPSY

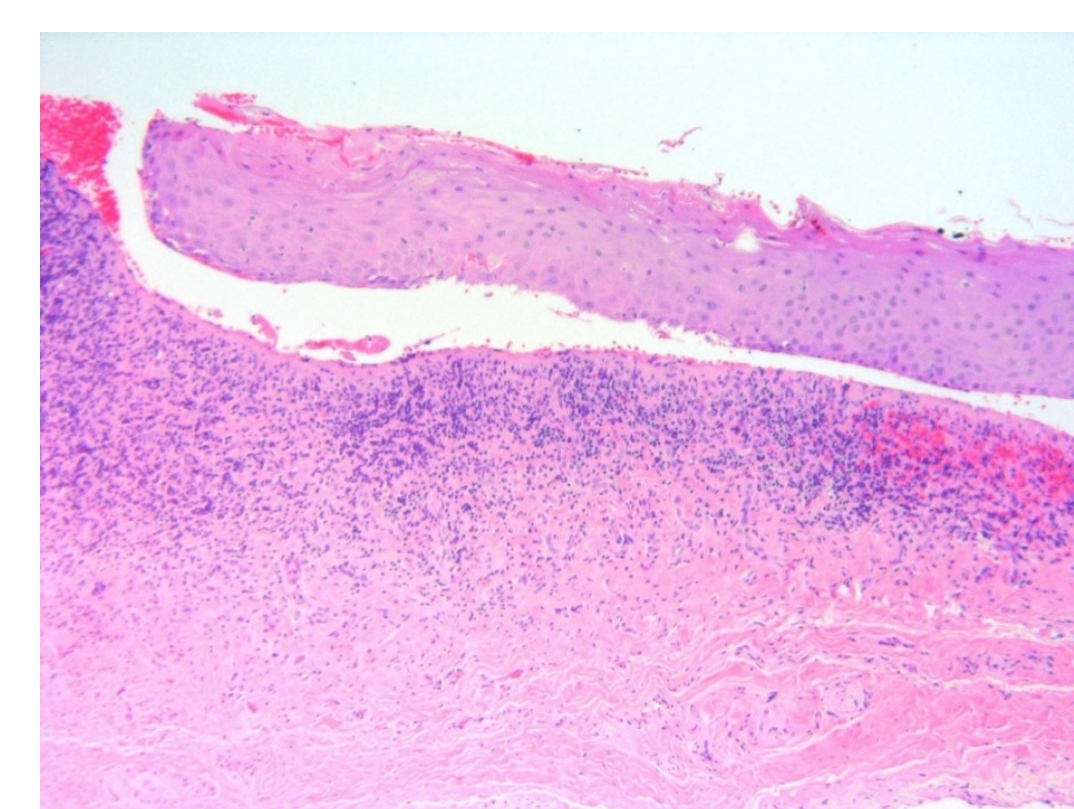


Figure F: 10x magnification

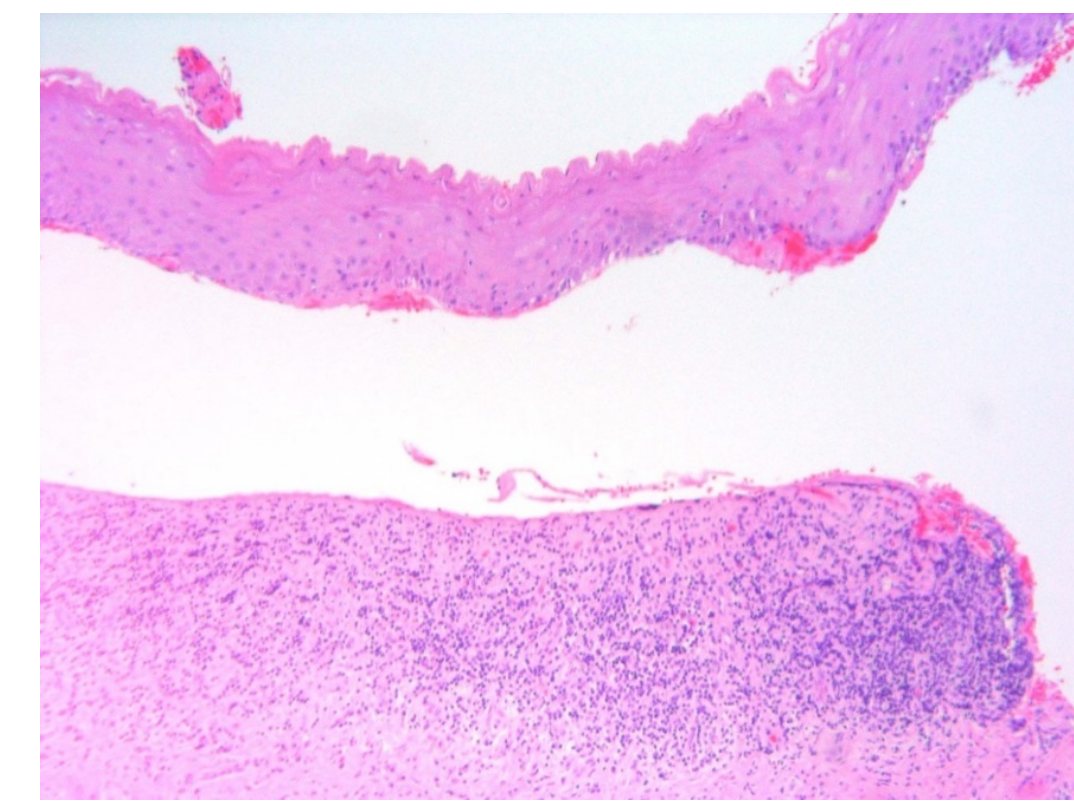


Figure G: 10x magnification

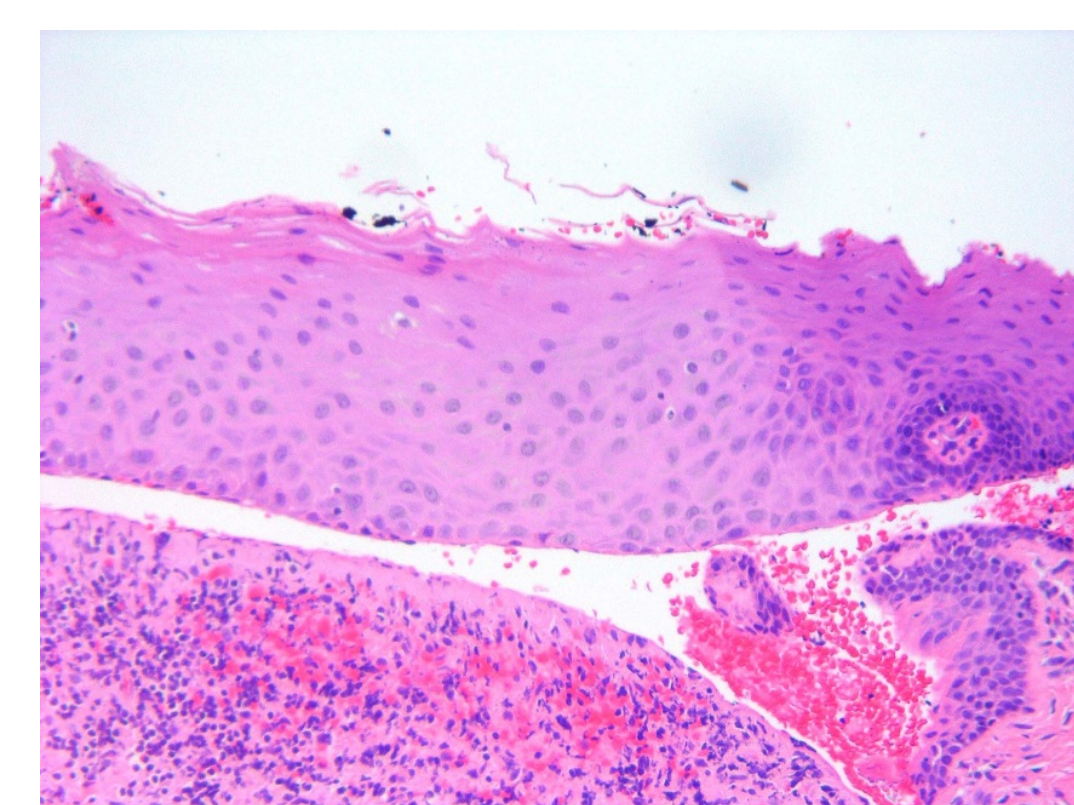


Figure H: 20x magnification

TREATMENT

Initial Visit: Assessment completed, plaque score evaluated and oral healthcare instructions provided. The patient demonstrated an understanding of all recommendations, which included better adaptation in brushing, more deliberate stroking, and c-shaped flossing to ensure more effective plaque removal.

Second visit: Plaque score re-assessed; debrided using Ultrasonic Scaler (USS) and hand instruments; Oraquix was applied to gingival tissues to reduce patient's sensitivity and improve patient's tolerance to treatment. Finally, fine prophylaxis was used to polish the entire dentition. Non-acidulated Sodium Fluoride 2% was placed in trays and delivered to the patient for a period of four minutes. The patient was monitored to ensure no systemic ingestion.

EVALUATION

Post dental hygiene treatment, the patient presented with improved oral hygiene home care as evidenced by a reduction in the plaque score index from 41% to 35%.

Under the care of an oral pathologist and dental hygienist, this patient reported limited and alleviated symptoms related to Lichen Planus and Mucous Membrane Pemphigoid.

Following biopsy of the patient's gingival lesions, in November 2010 an oral pathologist listed the following recommendations to the patient to help alleviate symptoms and pain associated with her oral conditions:

- Steroid use (Prednisone)
- Use of a soft toothbrush
- Routine disinfection of her toothbrush once a week with bleach
- Dry brushing lingual surfaces of teeth first for 30 seconds; Follow with moistened toothbrush and non-foaming sodium lauryl sulfate free toothpaste for the remaining 1.5 minutes
- Drink adequate water daily: 64-80 oz
- Grapeseed Extract supplements (Anti-inflammatory properties)
- Chlorhexidine Rinse
- Lanolin products or beeswax products on lips
- Salivary stimulants such as Pilocarpine and Cevimeline
- Topical Fluocinonide Gel – 0.05%

Clinical observations of this patient can be seen in Figures A-E. Note the erythematous tissue and areas of bullae.

Histological findings show that this patient's oral mucosa exhibits a subepithelial split in areas of basal cell layer dissolution. There was evidence of a patchy lymphocyte infiltrate in the lamina propria. The histological diagnosis was therefore Mucous Membrane Pemphigoid, history of reticular Lichen Planus, and mild salivary gland hypofunction. – See Figures F-H.

CONCLUSION

With regards to patients with Lichen Planus and Mucous Membrane Pemphigoid, oral care providers would expect the patient to report symptoms including but not limited to: mucous membrane hypersensitivity, burning sensation, tingling, and pain induced by certain trigger foods. Currently, the etiology of Mucous Membrane Pemphigoid is unknown and there are no known medications to reverse the development of this disease.¹ Oral Lichen Planus can be treated with topical corticosteroids such as Fluocinonide Gel. Despite the unknown causes of Mucous Membrane Pemphigoid and the chronic nature of lichen planus, oral health care providers, especially dental hygienists, can offer recommendations that may alleviate symptoms of these immune-mediated conditions. Careful examination of the patient's oral mucosa is necessary along with consultation with an oral medicine specialist.¹

By following the recommendations offered by an oral pathologist, adhering to dietary counsel, and receiving routine dental care, this patient is able to manage pain and complications related to Lichen Planus and Mucous Membrane Pemphigoid. Oral health providers should be conscious of the clinical manifestations of Lichen Planus and Mucous Membrane Pemphigoid, in addition to other oral conditions. Likewise, providers should be adept at altering routine dental care methods to accommodate patients with these and other immune-mediated conditions. If clinical treatment and oral care are administered properly, the patient should experience alleviated symptoms and suffer less discomfort and sensitivity on a day-to-day basis and during dental assessment and treatment.