Oral Pathology – Lichen Planus

Group 2B-1

Rounds Team

- **Group Leader: Dr. Pelz**
- **Specialty Leader: Dr. Khaled**
- **Project Team Leader:**
  - **D4 – Lauren Bostanche**
- **Project Team Participants:**
  - **D1 - Gabriel Kosmalski**
  - **D2 - Alexis Tomaszewski**
  - **D3 – Amanda Witzlib**

Patient: Tony

- 83 year old Caucasian male
- Active patient at MUSoD since 2002
- Chief Complaint – “I have sores in my mouth.”

Medical History

- Diverticulitis with surgery on colon in 12/2016
- Hernia surgery in 6/2017
- Rotator cuff surgery in 6/2017
- Left knee replacement in 2011, originally required to pre-medicate, but no longer necessary
- Former smoker, quite ~40 years ago
- Hypothyroidism
- Carpal tunnel syndrome, surgery on both hands in 2017
- Reduced lung capacity, is on oxygen at night

Medications

Medication	Use/Indication
Simvastatin	High cholesterol
Levothyroxine	Hypothyroidism
Tamsulosin (Flomax)	Enlarged prostate/Frequent Urination
Cetirizine	Antihistamine, Hives
Vitamin B	OTC
Vitamin C	OTC
Multivitamin	OTC
Omega 3	OTC
Oxybutynin	Frequent Urination
Pantoprazole	GERD
Fluocinonide	Corticosteroid for lichen planus
Low dose aspirin	Heart health

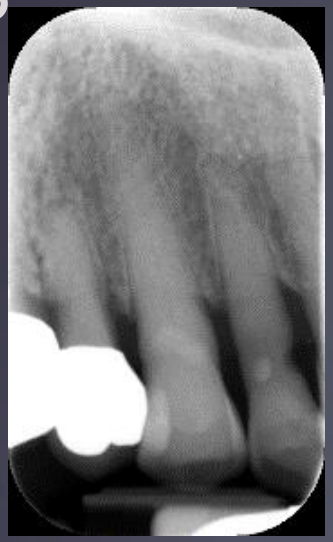
Dental History

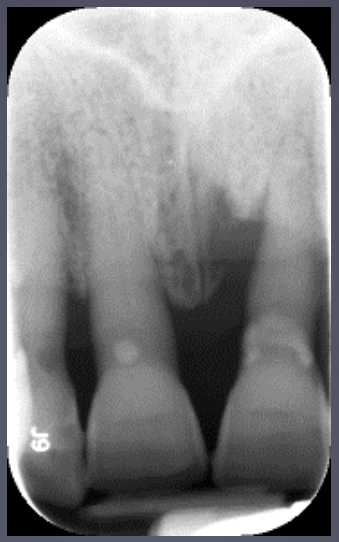
- Periodontal Therapy
  - SRP (2002, 2006)
  - 3-Month Recall Perio Maintenance
- Restorative Therapy
  - Crowns - #4, #5, #19, #20, #29, #30
  - Amalgam - #31 (MODL)
  - Cervical Caries - #6, #7, #8, #10, #11, #19, #31
- Removable Prosth
  - Maxillary RPD, #8 tube tooth added after extraction due to lack of periodontal stability

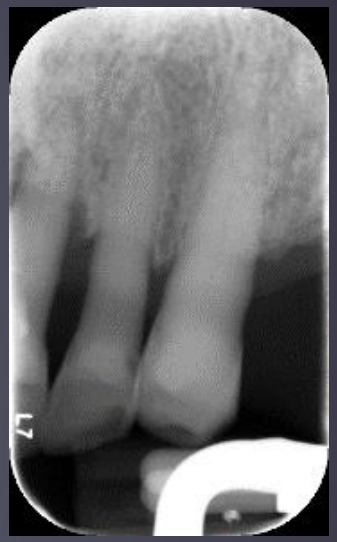
Dental History (continued)

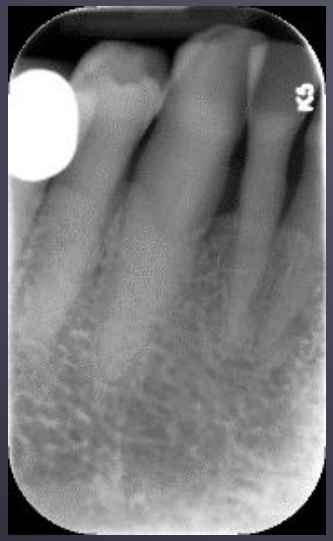
- Oral Pathology
  - Presumptive erosive lichen planus observed in 4/2009 (erythematous and erosive)
  - Biopsy conformation in Jan 2010 and treated with Kenalog in Orabase, limited symptoms relief observed and patient prescribed fluocinonide
  - No further notes of observations until 2012 and Kenalog in Orabase prescribed
  - No signs/symptoms observed in notes until 2017, presented again as erythematous, painful, with white striations, patient prescribed Clobetasol gel 0.05% b.i.d. for 8-10 mintues, with no improvement then prescribed a dexamethasone rinse 1 week later, limited reduce of symptoms when biopsy confirmed again and patient prescribed fluocinonide gel (Lidex) by dermatologist, Currently inactive with a slightly red gingiva without symptoms

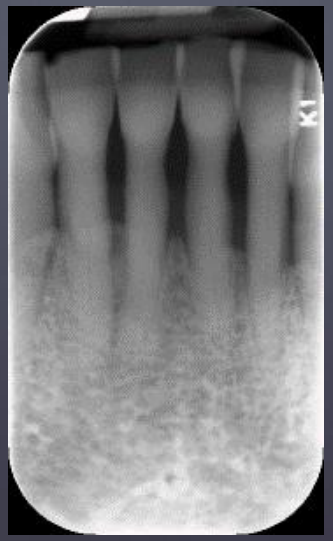
Radiographs – Anterior PAs

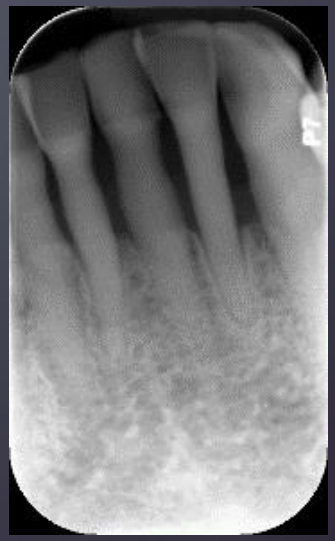






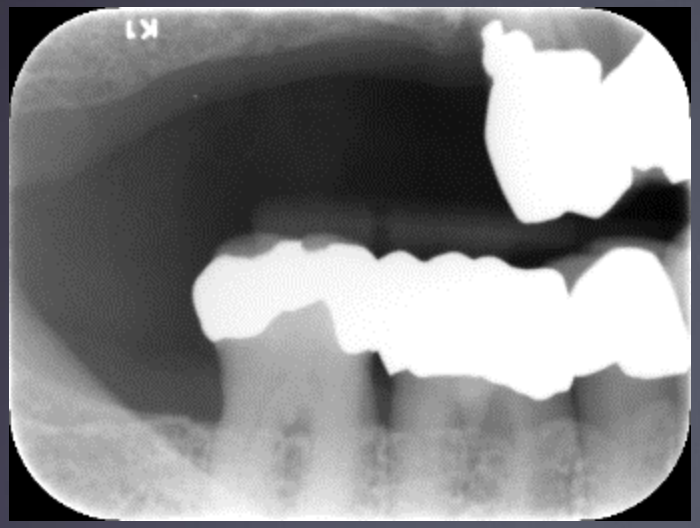


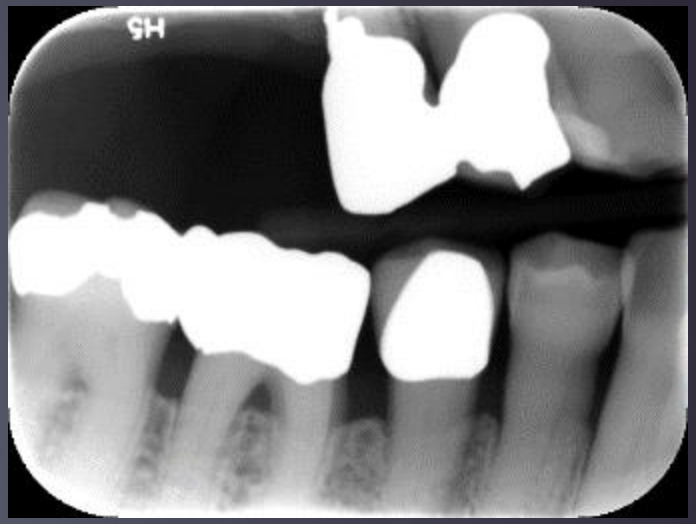




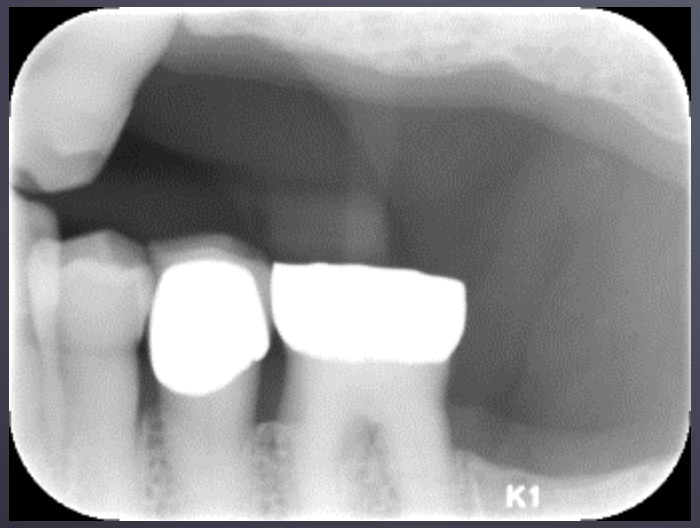
Radiographs - Bitewings

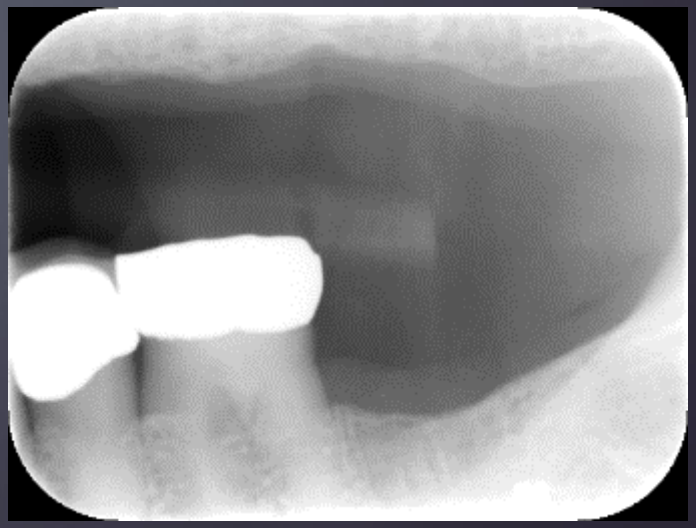
Right



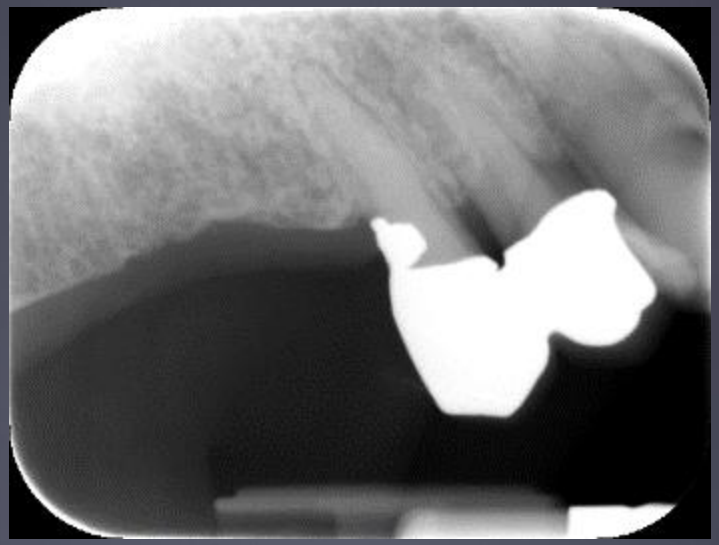


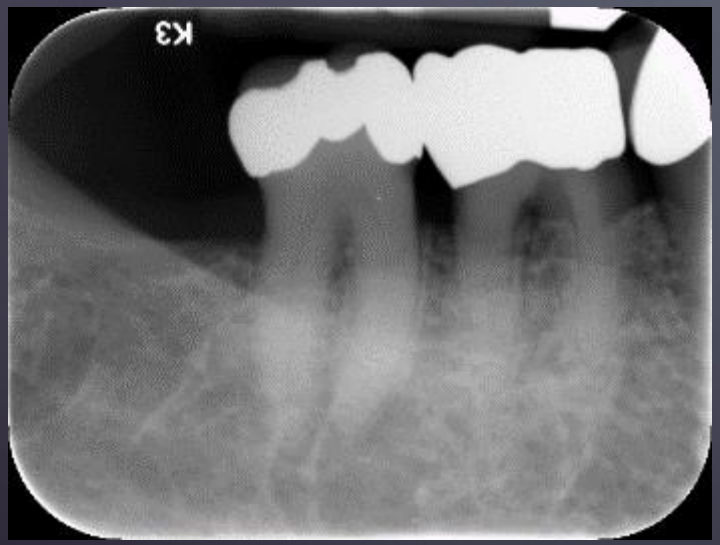
Left

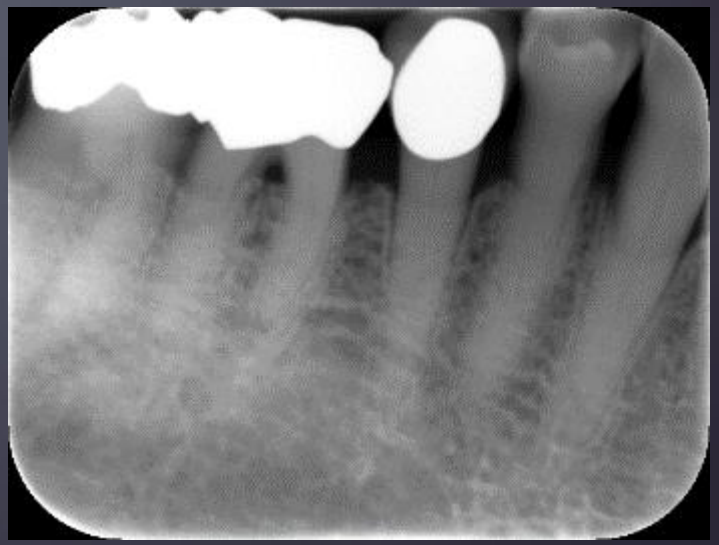




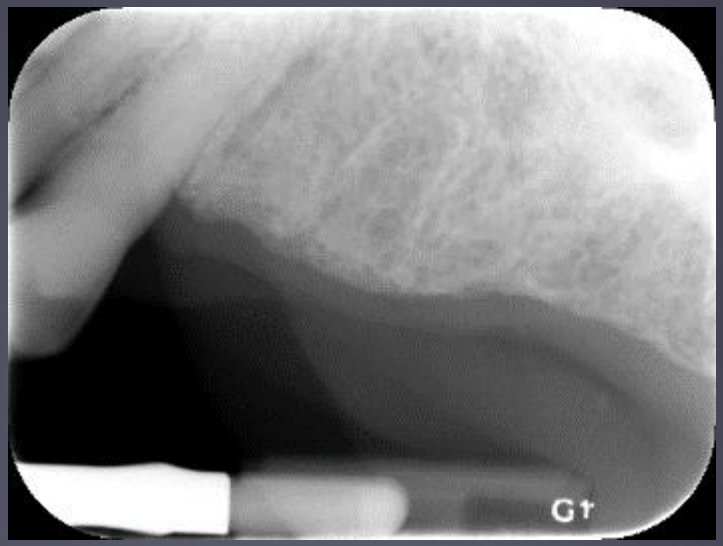
Radiographs – Right PAs

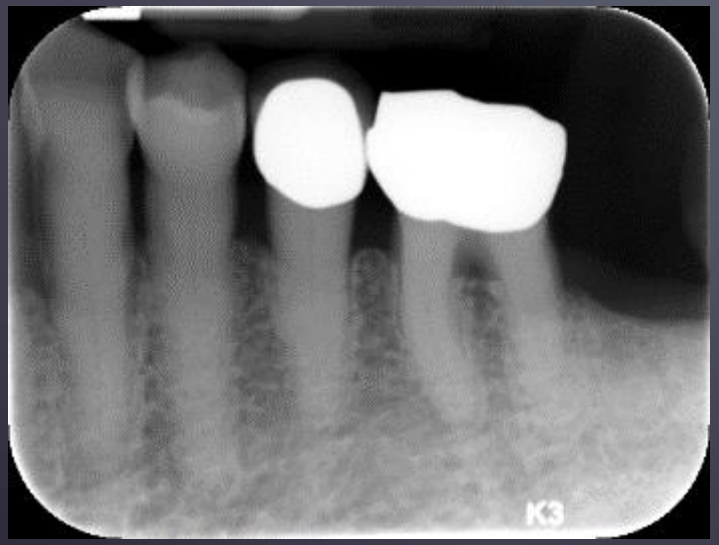


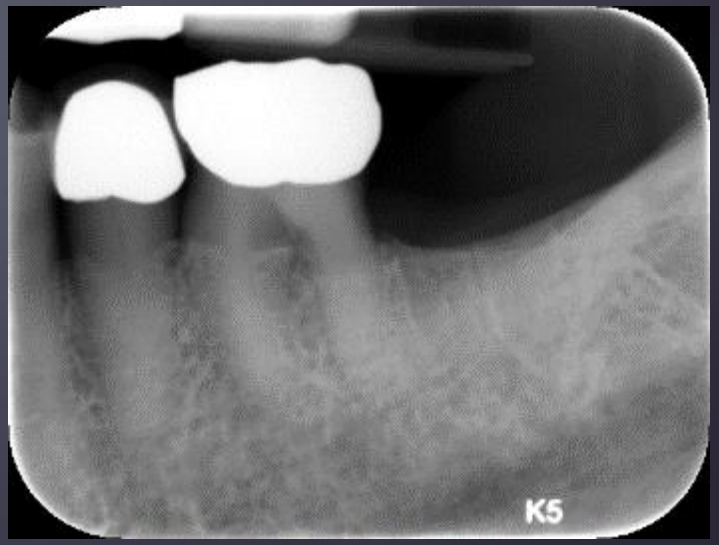




Radiographs - Left PAs







Radiographic Findings

- Generalized horizontal bone loss
- Vertical bone loss #9
- Treated cervical caries
- Crowns (#4, #5, #19, #20, #29, #30, #31)
- Furcation involvement (Class II - #19, 30, 31)

Clinical Findings

- Missing teeth due to periodontal disease and caries
- Cervical caries noted on F of #7, 8, 9 and B of #19, #30, #31 and L of #31 likely due to attachment loss exposing root surfaces
- Erythematous, painful lesions with white striations noted on buccal mucosa bilaterally
- Red, fissured tongue
- Mobility Class 2 on #23, 24 and Class 1 on #25, 26

Specific Findings

- Erythematous, painful lesions with white striations noted along buccal mucosa
- Increased plaque in areas of lesions due to inability for adequate oral hygiene because of pain (OH may contribute to lichen planus, need to control plaque or otherwise flare-ups may be more frequent)

Periodontal Charting

																MOBILITY
																FURCA
																PLAQUE
																BOP
			5 5 5	6 6 6	5 5 5	5 5 5	5 5 5		5 5 5	6 6 6						MGJ
			6 6 6	4 5 5	7 8 6	6 7 8	6 4 6		7 5 7	6 5 6						CAL
			3 3 3	2 2 3	3 2 2	2 2 3	3 1 3		3 1 3	2 1 2						P.D.
			3 3 3	2 3 2	4 6 4	4 5 5	3 3 3		4 4 4	4 4 4						FGM
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
			2 2 1	2 2 1	2 2 1	3 3 3	2 3 3		4 4 4	2 3 3						FGM
			2 2 3	3 2 3	3 2 3	4 2 3	3 2 3		3 2 3	3 2 3						P.D.
			4 4 4	5 4 4	5 4 4	7 5 6	5 5 6		7 6 7	5 5 6						CAL
																MGJ
																BOP
																PLAQUE
																FURCA
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																PROGNOSI
																FURCA
																PLAQUE
																BOP
	5 5 5	5 5 5	4 4 4	3 3 3	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5			MGJ
	7 6 5	6 4 5	4 4 5	5 5 5	5 4 4	5 4 4	5 6 5	7 7 7	7 7 7	6 6 5	3 3 4	3 3 3	3 3 5			CAL
	4 3 3	3 2 3	3 2 4	3 2 3	2 1 2	2 1 1	2 1 1	2 1 2	2 1 2	2 1 2	2 1 3	2 1 2	2 1 2			P.D.
	3 3 2	3 2 2	1 2 1	2 3 2	3 3 2	3 3 3	3 5 4	5 6 5	5 6 5	4 5 3	1 2 1	1 2 1	1 2 3			FGM
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	
	3 2 2	1 2 1	1 2 1	4 5 4	4 6 5	6 6 5	5 5 5	6 6 6	7 7 7	6 6 3	2 3 2	1 2 2	4 5 5			FGM
	2 1 2	2 1 2	2 1 2	2 1 2	2 2 2	2 1 2	2 1 2	2 1 2	2 2 3	2 1 3	3 1 3	2 2 3	4 2 3			P.D.
	5 3 4	3 3 3	3 3 3	6 6 6	6 8 7	8 7 7	7 6 7	8 7 8	9 9 10	8 7 6	5 4 5	3 4 5	8 7 8			CAL
	5 5 5	4 4 4	4 4 4	5 5 5	4 4 4	4 4 4	4 4 4	4 4 4	3 3 3	4 4 4	5 5 5	5 5 5	5 5 5			MGJ
																BOP
																PLAQUE
	2	2											2			FURCA
						1	1	2	2							MOBILITY

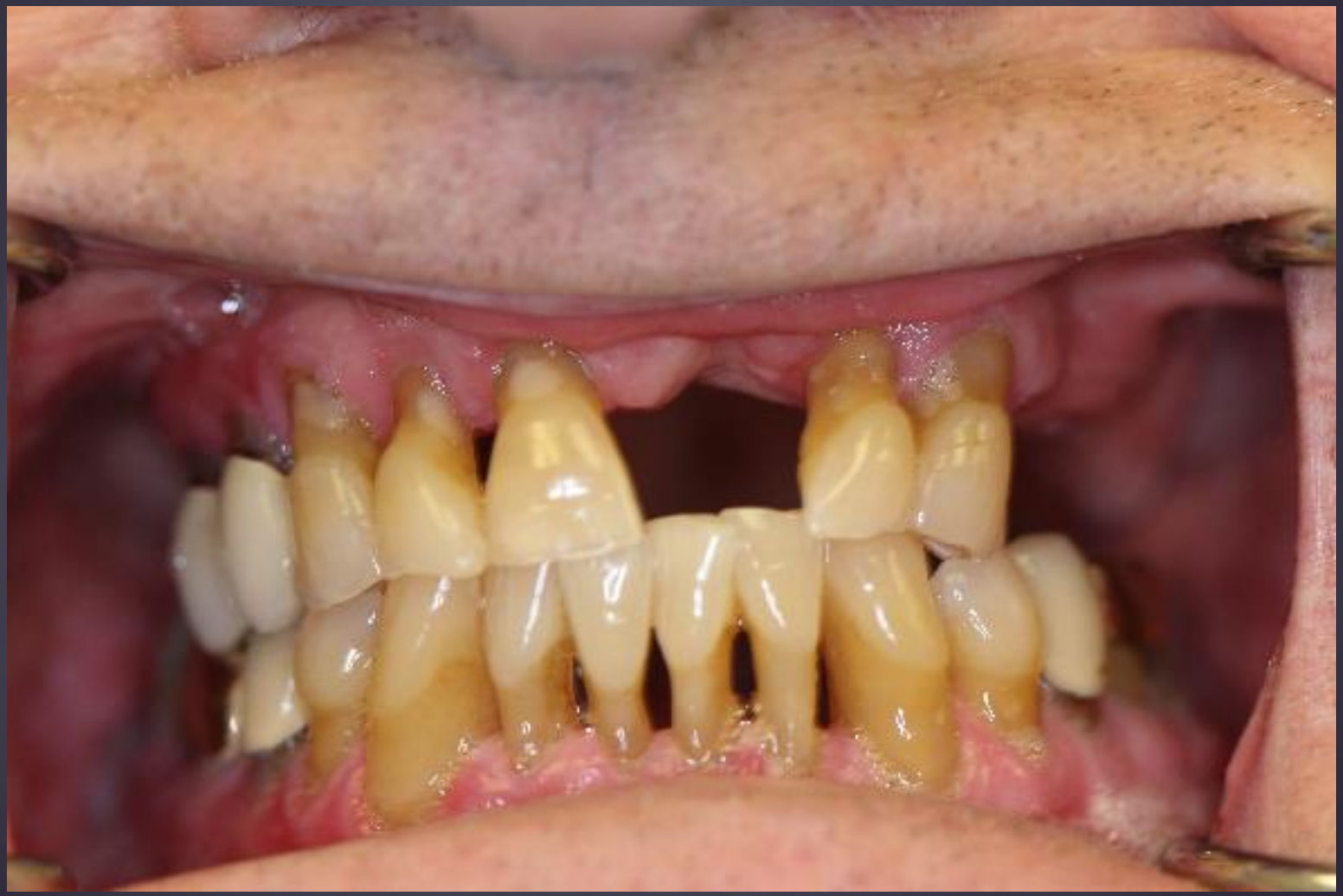
Diagnosis

- Periodontal
  - AAP Classification – Generalized Severe Chronic Periodontitis, exacerbated by xerostomia and lichen planus
  - ADA Classification – IV – Advanced Chronic Periodontitis, unstable
- Erosive lichen planus

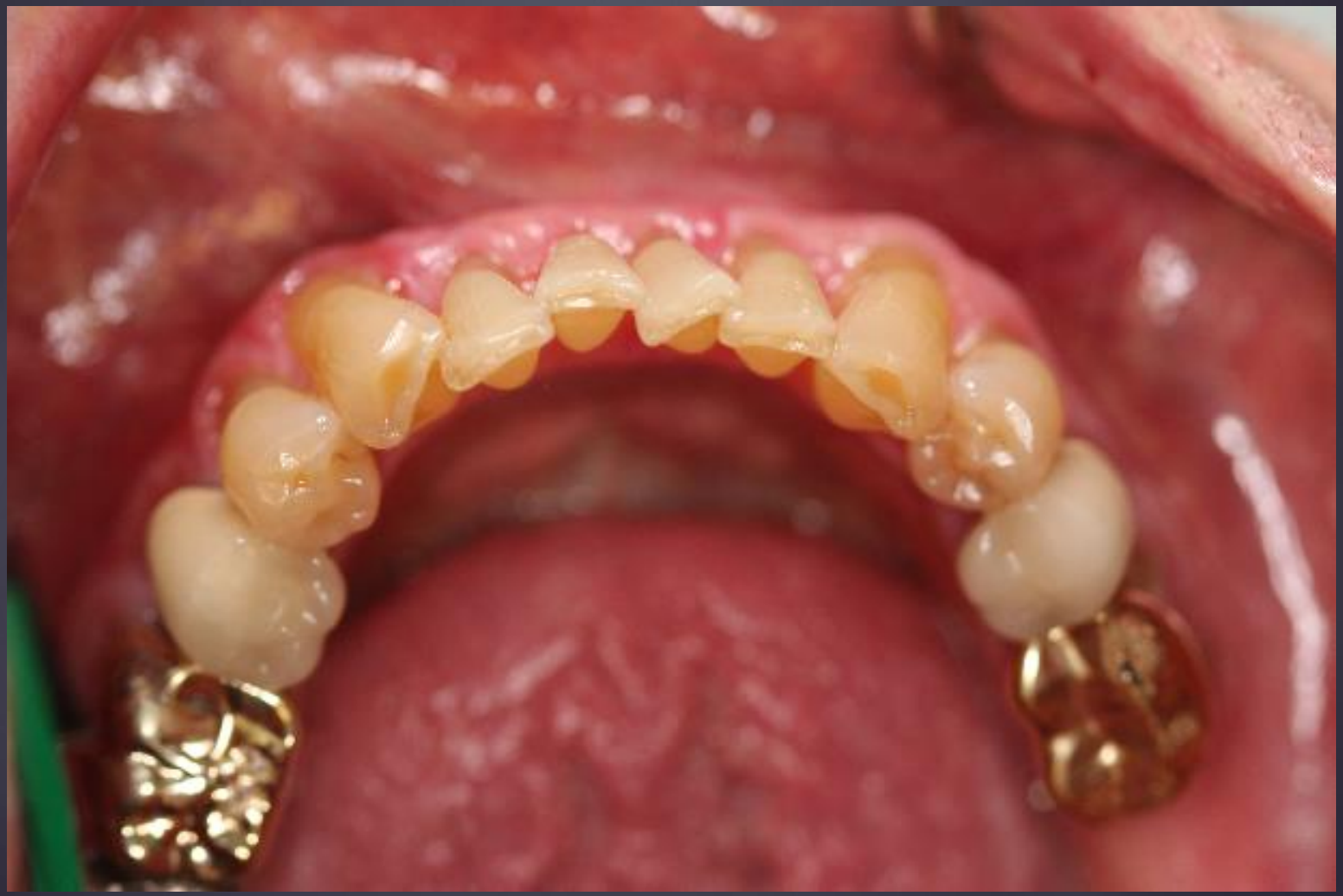
Problem List

- Missing teeth
- Periodontal disease
- Cervical caries
- Mobility
- Soft tissue lesions
- Pain

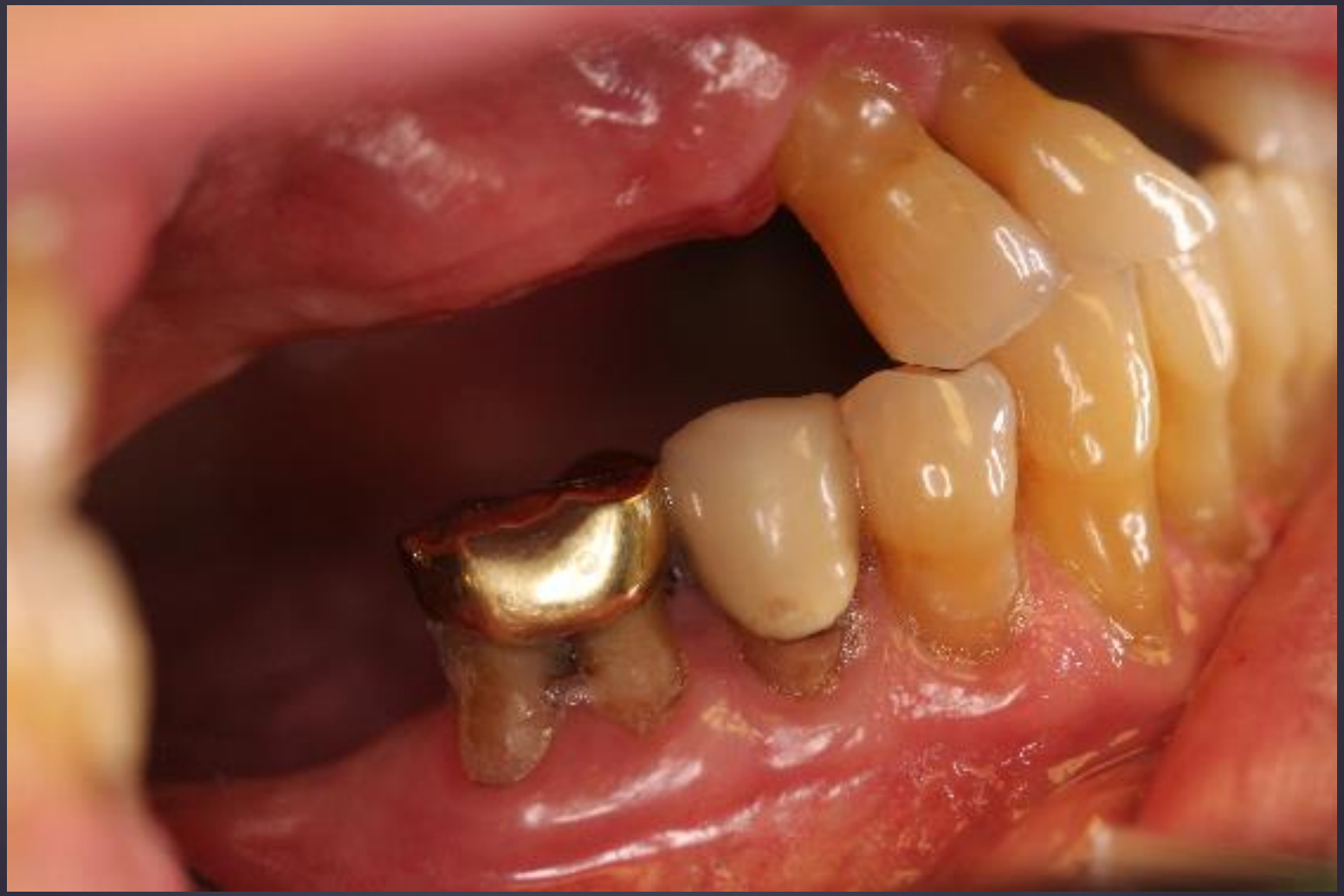
Clinical Photographs



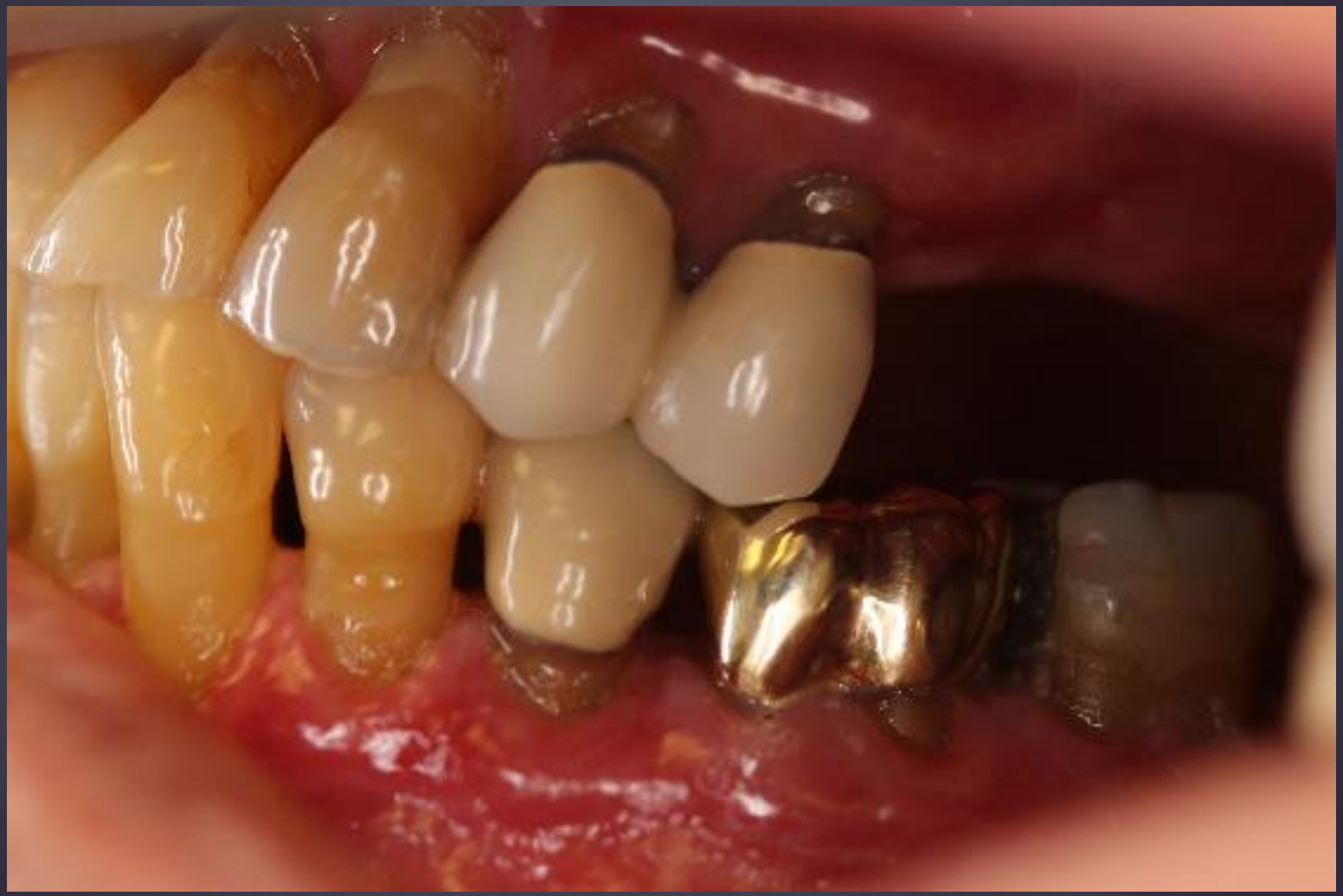
Clinical Photographs



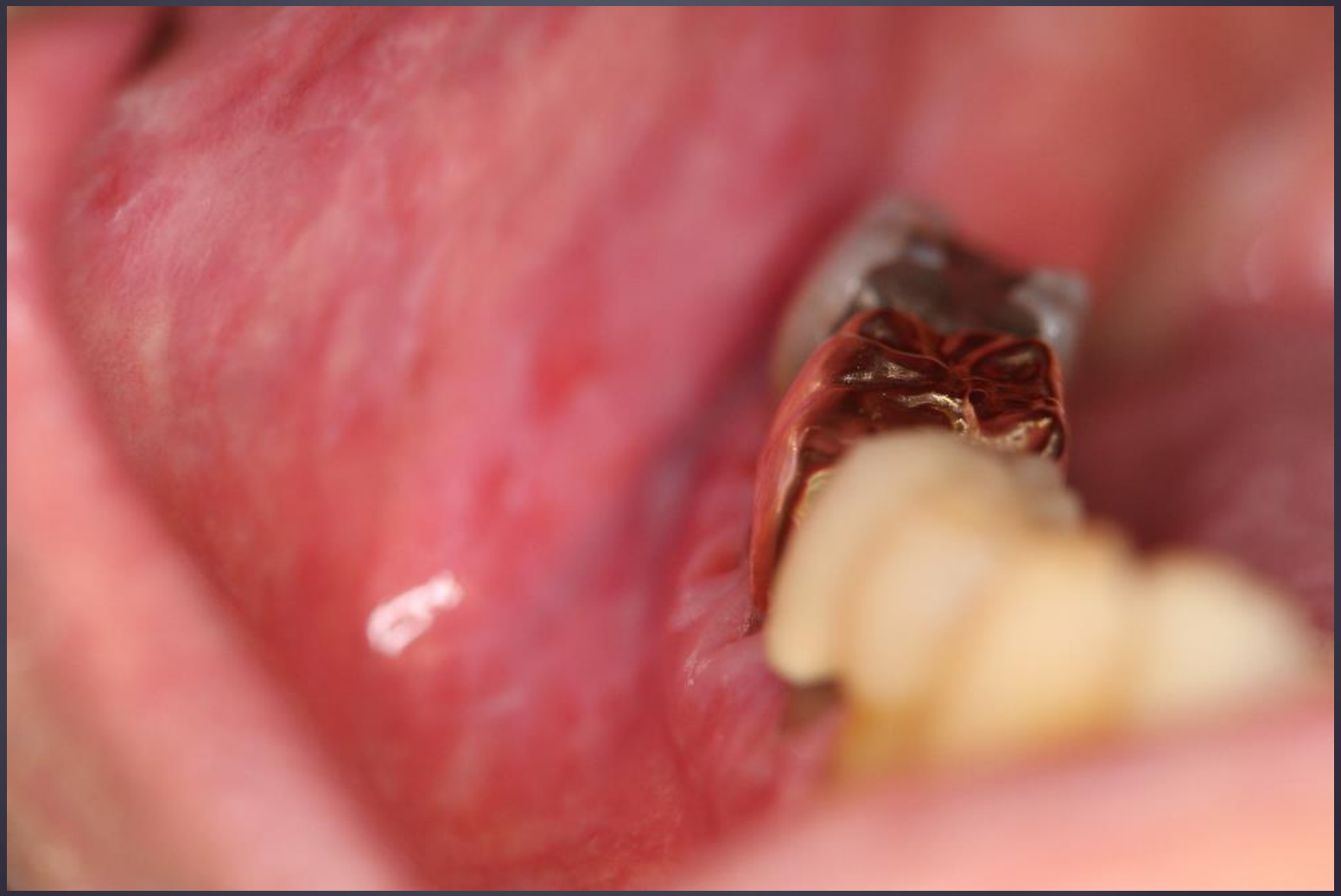
Clinical Photographs



Clinical Photographs

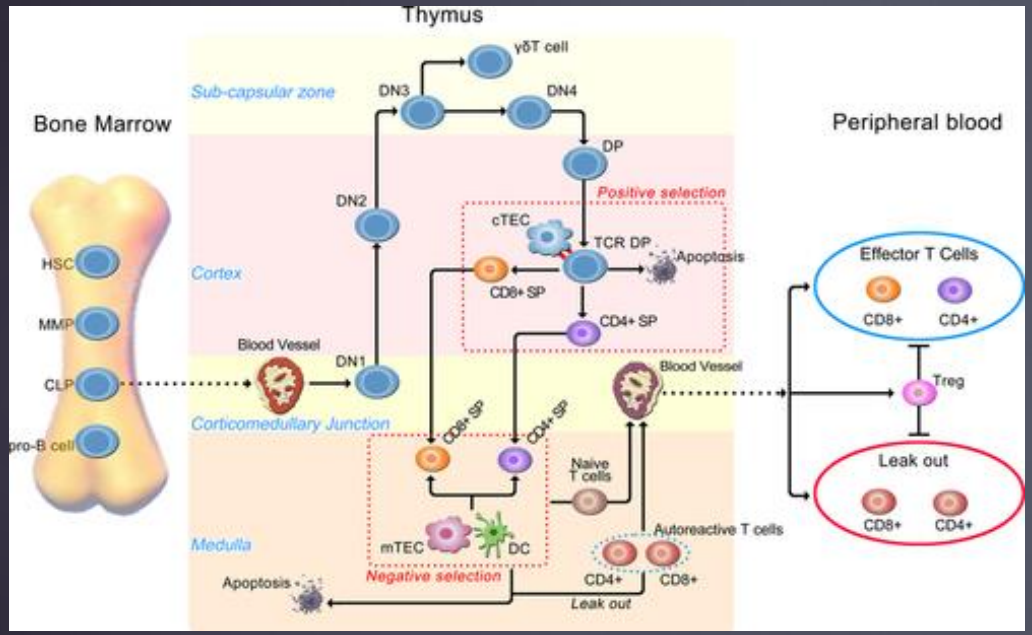


Clinical Photographs



D1 Basic Question:

What is an Autoimmune Disease?



- -misdirected host response
- Genetic make-up and environmental trigger necessary
- -body recognizes self-peptides as foreign invaders
- B and T cells
- Positive selection and lack of negative selection
- -leads to destruction of normal, healthy tissues
- T cells- cytotoxic function
- B cell- plasma cells and produce autoantibodies

Wang, L, Wang, F-S, Gershwin, ME (Research Center for Biological Therapy, the Institute of Translational Hepatology, Beijing 302 Hospital, Beijing, China; and Division of Rheumatology, Allergy and Clinical Immunology, University of California at Davis School of Medicine, Davis, CA, USA). Human autoimmune diseases: a comprehensive update. (Review).*J Intern Med* 2015; 278: 369– 395.

Oral Lichen Planus

- Signs and Symptoms

-continuous inflammation of oral mucosa

-characterized by red, swollen areas along with white patches, potential open sores

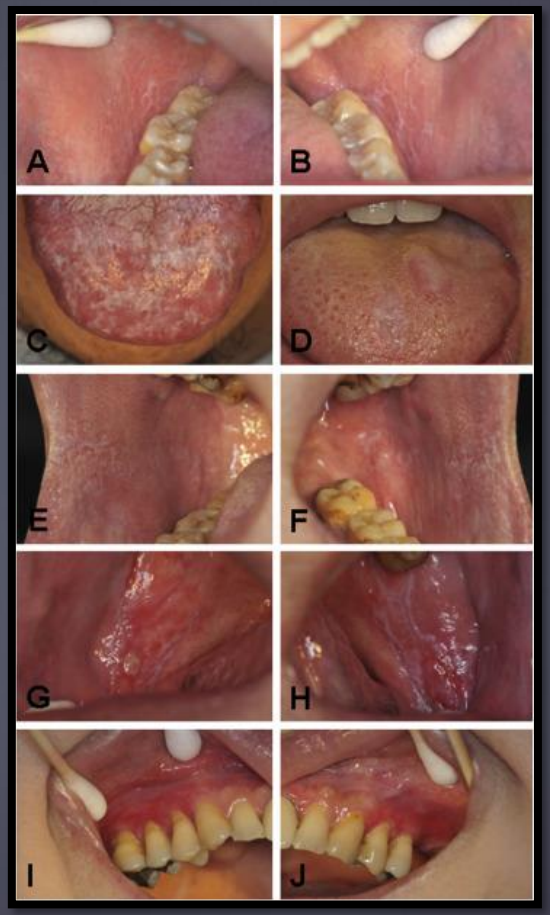
-often in buccal mucosa and tongue

-mild: no symptoms

-severe: pain, burning sensation

-activation of immune cells by oral mucus membrane cells

- Autoantibodies can be found in patient serum



Risks and Treatment

-occurs more in middle-aged to older females

-if uncontrolled, can lead to oral cancers

-corticosteroids are primary treatment

- •Topical, spray powders, or injections
- •Reduce swelling and initiates healin

-flare-ups may be due to stress, mouth injury, allergy, or certain medications

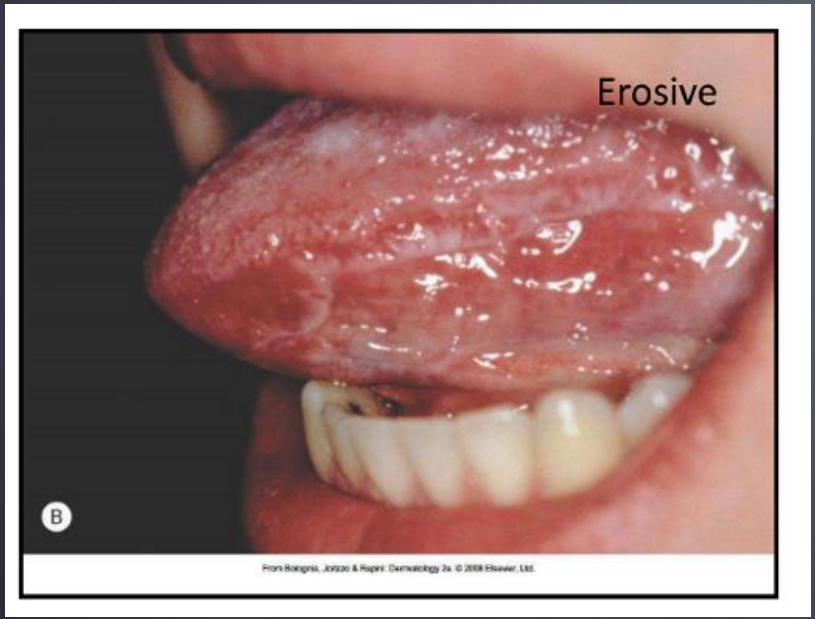
Chiang, C., Chang, J. Y., Wang, Y., Wu, Y., Lu, S., & Sun, A. (2018). Oral lichen planus – Differential diagnoses, serum autoantibodies, hematinic deficiencies, and management. *Journal of the Formosan Medical Association, 117*(9), 756-765. doi:10.1016/j.jfma.2018.01.021

D2: What does Lichen Planus look like clinically?

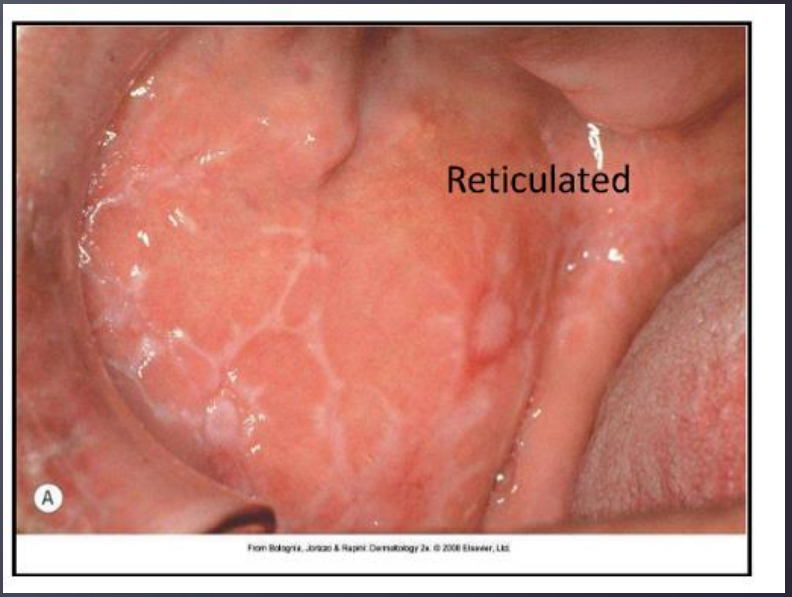
- Inflammatory disease
  - Skin
  - Hair
  - Nails
  - Mucous membranes
- Associated with exposure to drugs, vaccines, or viruses
- Location
  - Oral
    - Most common
  - Genital
  - GI tract

Types

- Erosive
  - Ulcers
  - Gingiva & tongue
  - Painful



- Reticulated
  - Linear lace-like small white papules
  - Buccal mucosa
  - Usually asymptomatic



D3 PICO

- **Clinical Question: What is the best treatment option for patients with oral lichen planus?**

D3 Pico Question:

- **Clinical Question:**

What are the clinical signs of Oral Lichen Planus and what are some of the best ways to relieve symptoms?

PICO Format

P: Patients with oral lichen planus

I: Topical corticosteroids

C: No treatment

O: More effective reduction of symptoms

PICO Formatted Question

- In patients with oral lichen planus, do topical corticosteroids or no treatment provide better reduction of symptoms for patient?

Clinical Bottom Line

- Topically applied clobetasol propionate 0.05% (mixed with 4% hydroxyethyl cellulose gel) is an accepted treatment to relieve pain symptoms from OLP

Search Background

- **Date(s) of Search:** 9/30/20, 10/14/20
- **Database(s) Used:** PubMed
- **Search Strategy/Keywords:**
- Topical steroids, Clobetasol, Oral lichen Planus, Systematic Review, Meta-analysis

Search Background

- **MESH terms used:**

Lichen Planus, Oral / drug therapy, Administration, topical, Steroids / therapeutic use, Clobetasol / therapeutic use, Pain management

Interventions for treating oral lichen planus: a systematic review

Citation:

Lodi G, Manfredi M, Mercadante V, Murphy R, Carrozzo M. Interventions for treating oral lichen planus: corticosteroid therapies. Cochrane Database Syst Rev. 2020 Feb 28;2(2):CD001168. doi: 10.1002/14651858.CD001168.pub3. PMID: 32108333; PMCID: PMC7047223.

Study Design: Systematic Review of RCTs

Study Need / Purpose:

To evaluate the evidence for the safety and effectiveness of treatments for symptomatic oral lichen planus.

Systematic Review of RCTs Article

Method: Searched several databases including Cochrane Oral Health Group Trials Register, the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE and EMBASE.

- Studies were scanned and reviewed independently.
- Studies were graded with various levels of bias

Results:

- No difference between Topical Corticosteroids (TCS) and Topical Calcineurin Inhibitor (TCI) Treatment

- No difference for pain relief between low dose clobetasol and high dose clobetasol

- No evidence that any specific TCS reduces pain better than other TCS

Systematic Review of RCTs Article

Conclusions

- It is well known that TCS are the first line of treatment for oral lichen planus.
- Unable to identify a RCT comparing TCS to a placebo.
- Unclear what the dosage, concentration, or which specific TCS is the standard of care.

Limitations

- Relatively poor quality of trials, including high bias

Systematic Review of RCTs Article

Reason for selection

- Systematic review of RCTs, high level of evidence
- Relevant to clinical question

Implications

- Topical corticosteroids is the first line treatment
- Not enough evidence to state that any specific TCS is more effective than another

Randomized, placebo-controlled, double-blind trial of clobetasol propionate 0.05% in the treatment of Oral Lichen Planus

Citation:

Arduino PG, Campolongo MG, Sciannameo V, Conrotto D, Gambino A, Cabras M, Ricceri F, Carossa S, Broccoletti R, Carbone M. Randomized, placebo-controlled, double-blind trial of clobetasol propionate 0.05% in the treatment of oral lichen planus. Oral Dis. 2018 Jul;24(5):772-777. doi: 10.1111/odi.12821. Epub 2018 Mar 13. PMID: 29297958.

Study Design: Individual RCT

Study Need / Purpose:

To evaluate clobetasol propionate 0.05% (TCS) compared to a placebo in the management of OLP in a double-blind randomized protocol.

Individual RCT Article

Method:

- Computer generated randomization, double blind
- Stage I = Topical treatment for 8 weeks, applied twice per day
- Stage II = Follow up period of 6 months

Results:

- Clobetasol group symptoms were better and more stable than placebo from week 1 to week 4 (continuous data)
- Some adverse effects after first 8 weeks
- Relapse and need to be retreated in both groups

Individual RCT Article

Conclusions

- Clobetasol is widely accepted and should be considered as the first line of treatment
- OLP lesions tend to relapse, need to consider long term effects and limitations of TCS

Limitations

- Relatively small sample size
- Some mild adverse side effects

Individual RCT Article

Reason for selection

- Relevance to PICO question
- Comparison of TCS to placebo

Implications

- These preliminary results from this relatively small sample size allows for further studies to be replicated

Levels of Evidence

☒ **1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)

☒ **1b** – Individual RCT

☐ **2a** – Systematic Review of Cohort Studies

☐ **2b** – Individual Cohort Study

☐ **3** – Cross-sectional Studies, Ecologic Studies, "Outcomes" Research

☐ **4a** – Systematic Review of Case Control Studies

☐ **4b** – Individual Case Control Study

☐ **5** – Case Series, Case Reports

☐ **6** – Expert Opinion without explicit critical appraisal, Narrative Review

☐ **7** – Animal Research

☐ **8** – In Vitro Research

Strength of Recommendation Taxonomy (SORT)

☐	**A** – Consistent, good quality patient oriented evidence
☒	**B** – Inconsistent or limited quality patient oriented evidence
☐	**C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening

Conclusions: D3

Based on the above considerations, how will you advise your D4?

- Topically apply clobetasol propionate 0.05% (mixed with 4% hydroxyethyl cellulose gel) to relieve pain symptoms from OLP

Conclusions: D4

Based on your D3's bottom line recommendations, how will you ***advise*** your patient?

- I would advise the patient to use .05% Clobetasol gel 2x daily and 1 week off.

How will you ***help*** your patient?

- I'd tell my patient about how there are some triggers for oral lichen planus, such as cinnamon or spicy foods, that he may want to try avoiding as well. I would recommend the Clobetasol gel and would also recommend Clotrimazole, which is a preventative anti-fungal lozenge.

Discussion Questions

Questions?