EVIDENCE BASED DENTISTRY ROUNDS

GERIATRIC DENTISTRY

GROUP 7A-2

OCT 14 2020

ROUNDS TEAM

- Group Leader: Dr. Rossi
- Specialty Leader: Dr. Hjertstedt
- Project Team Leader: Ariel
- Project Team Participants:
  - D3: Evbu
  - D2: Ramin
  - D1: Cali

PATIENT: MYRTE

- Age: 63 years old
- Gender: Female
- Ethnicity: African American
- Medical History: No medications, NKDA

CHIEF COMPLAINT

- “I think I’m due for some new dentures because it’s been a long time. My dentures were made here at Marquette probably 20 years ago and I’ve come back because the service here was always good.”

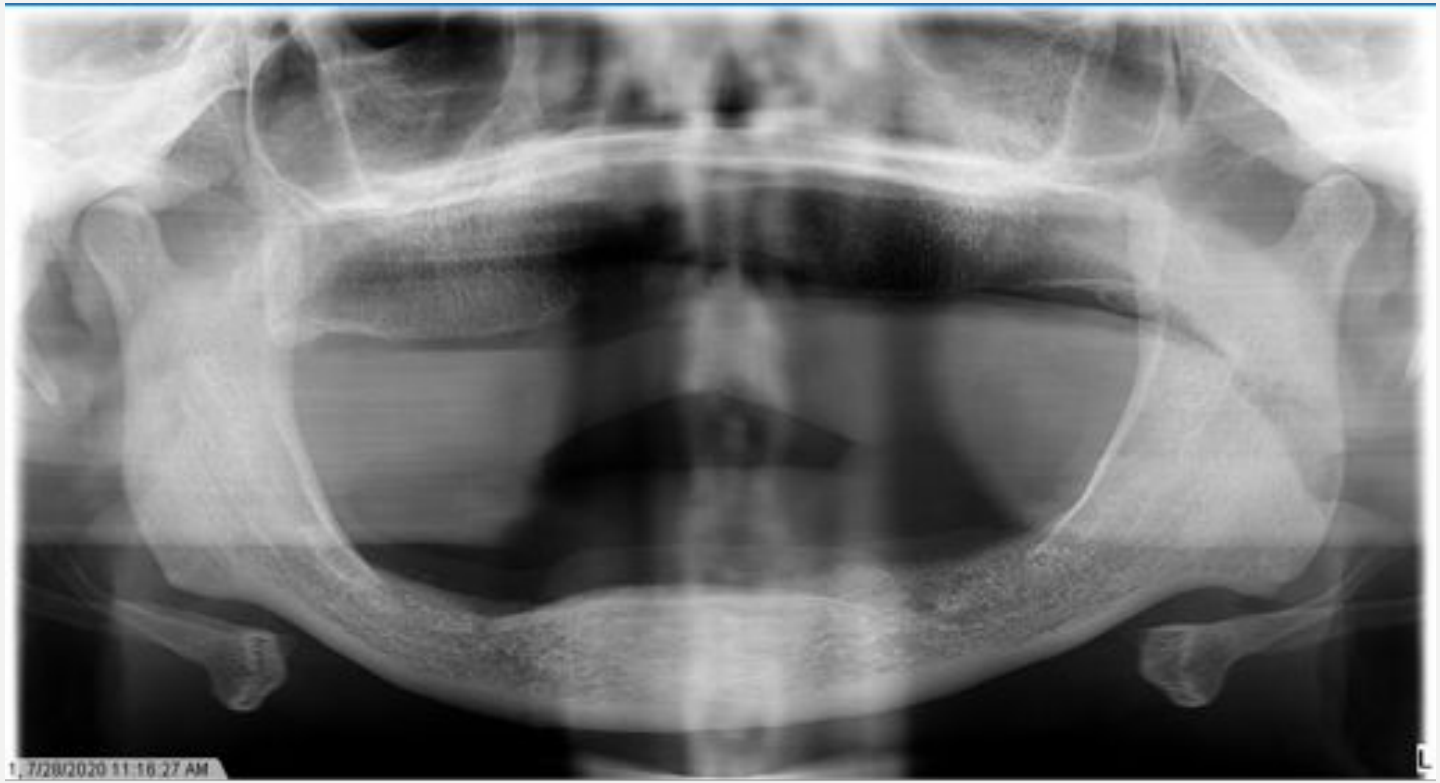
MEDICAL HISTORY

- Last visit to PCP was 2 years ago
- Conditions: Arthritis in shoulder, Snores at night, wears glasses
- Medications: Collagen powder every once in a while
- Allergies: Dust and household cleaners; reaction: sneezing
- Medical Consults: Advised patient to see PCP for high blood pressure readings during first 2 dental appointments (~170/100)

**DENTAL HISTORY

- Dentures were made at Marquette in ????
- Fully edentulated due to ????
- Has not had any follow up visits since ???
- “Clean dentures everyday with hydrogen peroxide and toothpaste”
- Sometimes sleeps with dentures**

RADIOGRAPHS



RADIOGRAPHIC FINDINGS

- Bone resorption
- Mental foramen near crest of ridge

**CLINICAL FINDINGS

Insert 20 form- soft tissue findings

**CLINICAL PHOTOS

**SPECIFIC FINDINGS

- List findings specific to the Rounds discussion, 1 slide
- To enhance viewing, include close-ups of clinical photos, cast photos, radiographs,

  add slides as needed

DIAGNOSIS

- Denture Stomatitis

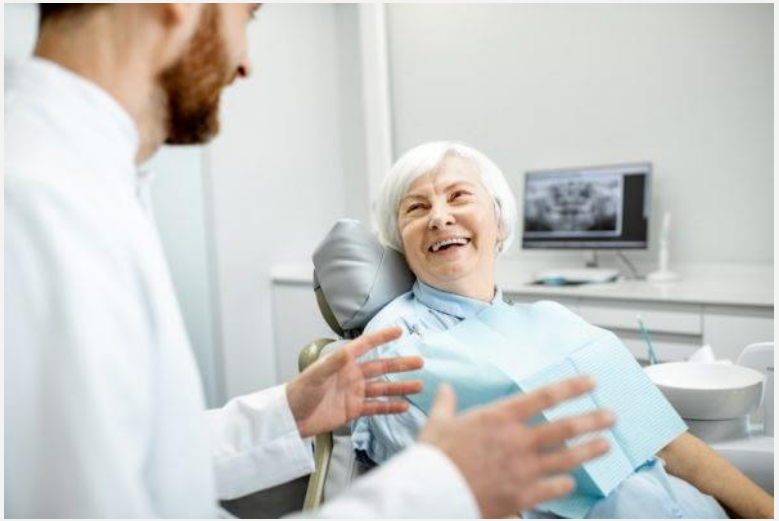
PROBLEM LIST

- Missing Teeth
- Defective denture
- Soft Tissue Lesion
- Home Care

What is Gerodontology?

- *Focuses on oral health conditions and dental care for ageing population*

- Oral Health Status
  - Changes in tissue & saliva
  - Tooth loss
- Impacts on Health
- Preventative Care



Picture source: https://www.premiumimplantnetwork.com/en/services/geriatric-dentistry/

Raphael C. Oral Health and Aging. Am J Public Health. 2017 May;107(S1):S44-S45. doi: 10.2105/AJPH.2017.303835. PMID: 28661797; PMCID: PMC5497890.

Razak PA, Richard KM, Thankachan RP, Hafiz KA, Kumar KN, Sameer KM. Geriatric oral health: a review article. J Int Oral Health. 2014 Nov-Dec;6(6):110-6. PMID: 25628498; PMCID: PMC4295446.

What Causes Denture Stomatitis?

- Multifactorial Cause
  - Poor denture fit
  - Poor denture hygiene
  - Fungal infections (Candida albicans)
- Newton's Classification
  - Type I, II, and III

Image reference: da Silva, H. F., Martins Filho, P. R., & Piva, M. R. (2011). Denture-related oral mucosal lesions among farmers in a semi-arid Northeastern Region of Brazil.

References:
Barbeau, J., Séguin, J., Goulet, J. P., de Koninck, L., Avon, S. L., Lalonde, B., ... & Deslauriers, N. (2003). Reassessing the presence of Candida albicans in denture-related stomatitis. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology*, *95*(1), 51-59.

Gendreau, L., & Loewy, Z. G. (2011). Epidemiology and etiology of denture stomatitis. *Journal of Prosthodontics: Implant, Esthetic and Reconstructive Dentistry*, *20*(4), 251-260.

D3 PICO

- Clinical Question: What is the success of using antifungal medication to reduce papillary hyperplasia as compared to cleaning the dentures with a Chlorhexidine rinse?

PICO FORMAT

P: Geriatric patients with denture stomatitis

I: Anti-fungal Medication

C: Using Chlorhexidine Rinse

O: Resolve papillary hyperplasia

PICO FORMATTED QUESTION

- Among geriatric patients with denture stomatitis, also known as inflammatory papillary hyperplasia, are antifungal medications superior at reducing denture stomatitis as compared to cleaning the dentures with a Chlorhexidine rinse?

CLINICAL BOTTOM LINE

- What is the success of using antifungal medication to reduce papillary hyperplasia as compared to using a chlorhexidine rinse?

SEARCH BACKGROUND

- Date(s) of Search: October 1, 5, 7
- Database(s) Used: PubMed, Wiley Online Library, Elsevier
- Search Strategy/Keywords: Denture Stomatitis Treatment, Antifungal Denture Treatment, Denture Stomatitis Chlorhexidine

SEARCH BACKGROUND

- MESH terms used:
- Stomatitis
- Stomatitis, Denture*
- Denture, Complete
- Candidiasis, Oral / therapy
- Stomatitis, Denture / drug therapy*
- Chlorhexidine / administration & dosage

ARTICLE 1 CITATION, INTRODUCTION

- Citation: Authors, Title, Journal, Date, Volume, Page Numbers.

  Yarborough A, Cooper L, Duqum I, Mendonça G, McGraw K, Stoner L. **Evidence Regarding the Treatment of Denture Stomatitis**. J Prosthodont. 2016 Jun;25(4):288-301

- Study Design: Observational Design
- Study Need / Purpose:

ARTICLE 1 SYNOPSIS

- This review compared a large array of treatment outcomes for denture stomatitis. It reviewed 67 relevant articles on the subject and attempted to discover the “gold standard” treatment for Denture stomatitis. In its review it found that out of the 36 articles that looked at anti-fungal treatment, 34 claimed that it was effective in reducing DS in a healthy patient. Sixteen articles looked at disinfectants in DS treatment and 13 of these claimed to have improved DS in patients. Although this study is limited because of the small sizes of the studies reviewed, majority of the studies did find an improvement in DS in their participants. Based on the review, it seems that there are no significant differences between using antifungal medications and using disinfectants for DS.

ARTICLE 1 SELECTION

- The article is a systematic review comparing known treatment models on denture stomatitis (DS) based on 67 relevant articles of the subjects. These treatment models included using antifungal medications (local and systemic), disinfectant/cleaners, such as chlorhexidine and more on DS. I picked this article because it seemed like a great analysis of the two options the patient was trying to choose.

ARTICLE 2 CITATION, INTRODUCTION

- Citation: Authors, Title, Journal, Date, Volume, Page Numbers.

Emami E, Kabawat M, Rompre PH, Feine JS. Linking evidence to treatment for denture stomatitis: a meta-analysis of randomized controlled trials. J Dent. 2014 Feb;42(2):99-106.

- Study Design: Observational Trial

- Study Need / Purpose:

ARTICLE 2 SYNOPSIS

The meta-analysis compared antifungal medications such as Amphotericin B with disinfectants such as, chlorhexidine gluconate, Listerine, hexetidine mouthwash or even essential oils such as Zataria multiflora. When comparing amphotericin B to these treatments, no clear difference was observed.

The results from this study should be looked at with caution as there were very limited sample sizes found with some flawed methods in some of the studies. Despite this, it can be concluded from this study that disinfectant methods could be used in adjunct or in substitution to antifungal medications. Using disinfectants such as Chlorhexidine instead of antifungals, could reduce the chance of side effects from antifungals such as GI disturbances, liver toxicity and others.

ARTICLE 2 SELECTION

This article is a clinical trial comparing the use of Chlorhexidine and anti-fungals in patients with denture stomatitis. I picked this article because it seemed like a great analysis of the two options the patient was trying to choose.

ARTICLE 3 CITATION, INTRODUCTION

- Citation: Authors, Title, Journal, Date, Volume, Page Numbers.

Kulak Y, Arikan A, Delibalta N. Comparison of three different treatment methods for generalized denture stomatitis. J Prosthet Dent. 1994 Sep;72(3):283-8.

- Study Design: Clinical Trial

- Study Need / Purpose:

ARTICLE 3 SYNOPSIS

- The trial took 45 patients with denture stomatitis and divided them into three groups that were monitored for two weeks. The first group was given fluconazole tablets for treatment, the second group was given fluconazole and applied chlorhexidine to the inner surface of the denture twice a day and the last group was given new dentures. Following the two-week session, it was found that 87% of the first two groups had a good response to treatment. With more people from the 2nd group being cured, as opposed to having improvements, than the 1st group. Only 33% of the third group showed any improvement.The results from this article show that though fluconazole is effective in reducing DS in patients, reinfection can occur shortly to when treatment ended. This is likely due to the tissue surface of the denture harboring Candida. When Chlorhexidine is used on the inner surface of the dentures in conjunction to taking fluconazole tablets then there was a greater decrease in bacteria colonies found on the denture surface. Thus, in order to have a more permanent result, Candida must be removed from the oral mucosa and the denture base itself. This explains why the treatment using Fluconazole in conjunction with chlorhexidine was more effective in curing Denture Stomatitis than the treatment of fluconazole alone. A limitation of this article is it only analyzes 45 people.

ARTICLE 3 SELECTION

- 1 slide
- Reason for selection
- Applicability to your patient
- Implications

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

How does the evidence apply to this patient?

- Consider/weigh:
  - Literature
  - Group Leader & Specialist experience
  - Patient circumstances & preferences

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

CONCLUSIONS: D4

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

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

DISCUSSION QUESTIONS

- 1-2 slides
- List posted discussion questions
- Questions may also be from Group Leader or Specialist

DISCUSSION QUESTIONS

THANK YOU