



CASE Presentation

Yahya Salim

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Patient profile

- Mr. T is a 24 year old Middle Eastern male. Who recently moved to the US from the mountains of Yemen (Yafi). He has no kids or a wife.
- He currently has Medicaid
- His last dental exam was over a year ago but he never continued his visit as required by his dentist.
- Brushes once daily, flosses using a toothpick (after chewing khat) and does not rinse.



Chief Complaint(s)

- Mr. T Stated to have severe pain on both teeth #5 and #6- due to an occlusal opening.
- He also wanted his teeth cleaned so he can have a better smile. Stated that he was somewhat embarrassed when smiling due to severe staining (possibly fluorosis) and generalized attrition.

Health History Overview

Blood Pressure: BP: 103/54, Pulse: 96 ASA II

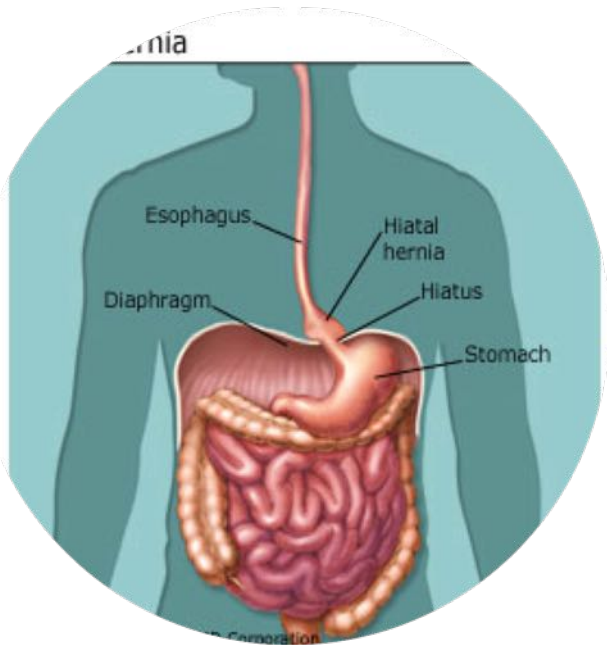
Medical Conditions:

- None smoker, uses Tobacco one pack a week and an occasional drinker
- Allergic to Shrimp – Gets itchy and rash
- GERD
- Chews Khat (*Catha edulis*)

Current Medications:

- Nexium 20 mg/twice daily temporarily as prescribed by physician for treatment of GERD

Explanation of Conditions - GERD



- GERD (Gastroesophageal Reflux Disease): Digestive disorder that affects the lower esophageal sphincter (muscle between stomach and esophagus) from closing properly, allowing stomach content to reflux back up. Hiatal hernia (When upper part of stomach moves up into the chest through the opening of the diaphragm) could be a cause of food reflux. Symptoms include heartburn, acid taste in the mouth and regurgitation.
- Khatri, M. (2019, September 17). GERD: Symptoms, Causes, Treatments, Remedies for Relief. Retrieved from <https://www.webmd.com/heartburn-gerd/guide/reflux-disease-gerd-1#1>.
- Barron, R. P., Carmichael, R. P., Marcon, M. A., & Sandor, G. K. (2003). Dental erosion in gastroesophageal reflux disease. *Journal (Canadian Dental Association)*, 69(2), 84-89.

stop unexpected
even in people who have
eaten shellfish in the past
with no problems.

- Shellfish allergies can be serious. If you have a shellfish allergy, carry injectable epinephrine with you in case of emergencies.

Shrimp Allergy

- Abnormal response of immune system to marine life (Crustaceans) protein.
- One of the most common allergy and is usually life-long
- Can cause anaphylaxis - Can cause swollen throat (air obstruction), rapid pulse, shock, dizziness.
- "Shellfish Allergy." *Mayo Clinic*, Mayo Foundation for Medical Education and Research, 13 Apr. 2019, <https://www.mayoclinic.org/diseases-conditions/shellfish-allergy/diagnosis-treatment/drc-20377507>.



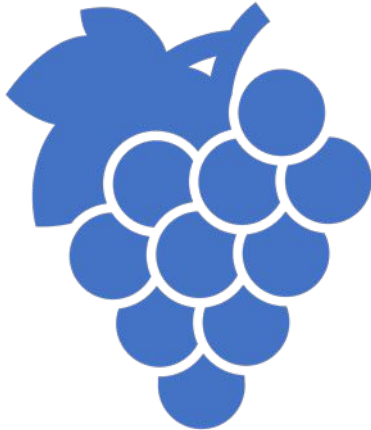
- Cultural drug that's predominately harvest and grows and on the horn of Africa and Arabian peninsula. Very addictive.
- Contains amphetamine cathinone; euphoric, psychostimulant, anorexia (decrease appetite), insomnia, hypertension, gastritis and impotence.
- Can lead to genotoxic effects; cancer induction, reduced fertility and heritable disease
- 8-folds increase in Micronucleus frequency
- Extrinsic and intrinsic discoloration of the oral dentition
- Can lead to gum disease and Oral cancer

Khat (*Catha edulis*)

- Kassie, Fekadu, et al. "Khat (*Catha edulis*) consumption causes genotoxic effects in humans." *International Journal of Cancer* 92.3 (2001): 329-332.

- Hailu, K., Lawoyin, D. O., Woods, D., & Bailey, J. R. (2006). Khat chewing and dental staining.

Conditions Management



- **GERD:** Patient is currently under a physician care and takes Nexium twice daily to relief temporarily discomfort (continues visits).
 - Avoiding foods and beverages that can relax the LES; chocolate, peppermint, fatty foods, alcohol and/or caffeine.
 - Foods and beverages that can irritate a damaged esophageal lining; citrus fruits and juices and tomato products.
 - Prescribed medications
- **Shrimp Allergy:**
 - Patient should avoid any marine life food.
 - Always carry an EpiPen incase of an emergency
- **Khat:**
 - **Avoid it (travel, educate self, stay away)**

Similar Sources to the above slides



Dental Hygiene Managements

- GERD: No contraindications to dental hygiene care.
 - The reflux of the acid from the stomach leads erosion and increase in cavities development in the oral dentition.
 - Xerostomia (Medications Adverse effects), which can increase plaque accumulation.
 - Patients should be seated in semi supine position
- Shrimp Allergy: No contraindications to Dental hygiene care
 - Read Patient medical history thoroughly
 - Administer EpiPen if needed
 - Remind patient to carry a EpiPen with them
- Sources:

1). (n.d.). Retrieved from <https://www.rdhmag.com/patient-care/rinses-pastes/article/16405688/tooth-allergy-awareness>.

2). Dundar, A., & Sengun, A. (2014, June). Dental approach to erosive tooth wear in gastroesophageal reflux disease. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4196415/>.

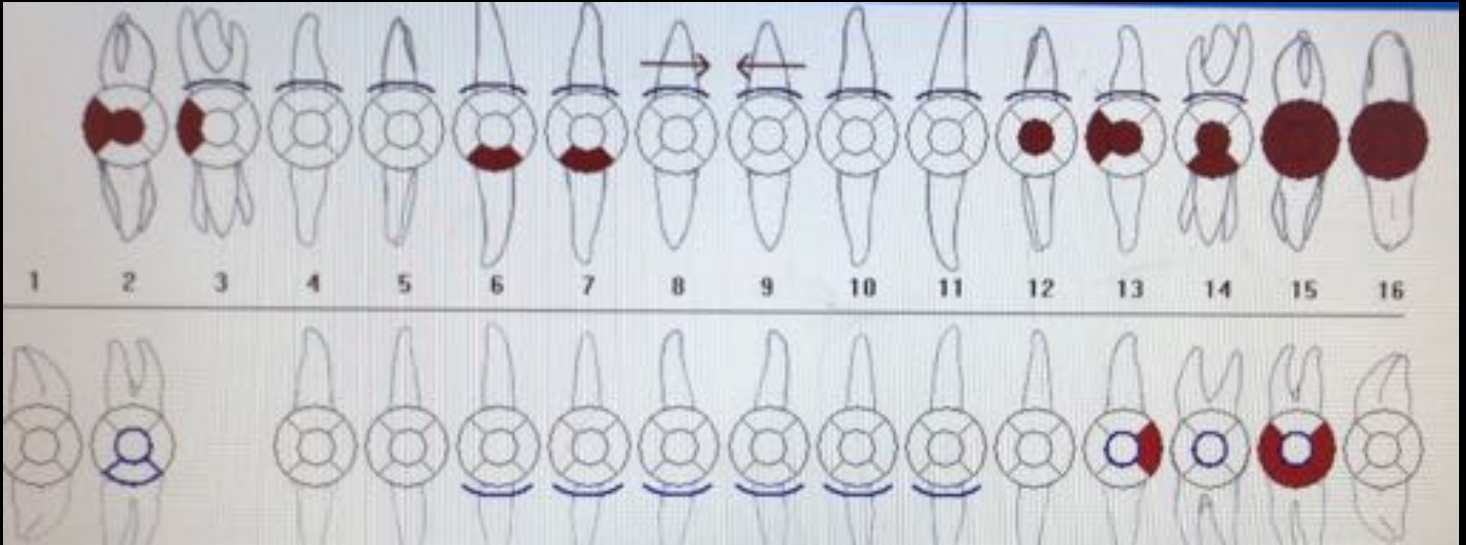
Radiographs





Clinical findings

- EO: Asymptomatic, 2mm Papule on the right lateral face and a 4mm papule on the left lateral cervical neck. Pt. stated to be aware of both papules and that they haven't change in size, color or shape.
- IO: Stained tongue from use of khat-leaf.
- Generalized black and yellow staining due to smoking, use of tobacco and khat chewing.
- Generalized mild to moderate subgingivally and interproximal calculus and heavy accumulation of plaque.
- Class of occlusion I (left) and II (right), overjet 3mm, overbite 10% and generalized attrition.



Dental charting

- Generalized Class V Veneers composites buccally on the Maxilla and anteriors of the mandibula
- Class I composites on #18, 19, 20 and 31.
- Tooth 1 and 30 are clinically missing

Caries Assessments

No ADA CAMBRA form was completed with the patient; however, I interviewed the patient pertaining his diet and found out that. Since he works in a grocery store, he is constantly surrounded by sugary food and is always consuming sugary snacks and drinking acidic drinks throughout the day further effecting his condition (GERD).




Caries present on 2(DO), 3(D), 6(B), 7(B), 12 (O), 13(DO), 14 (BO), severe decay on teeth #15 and 16, 18(BMD) and #20(M).

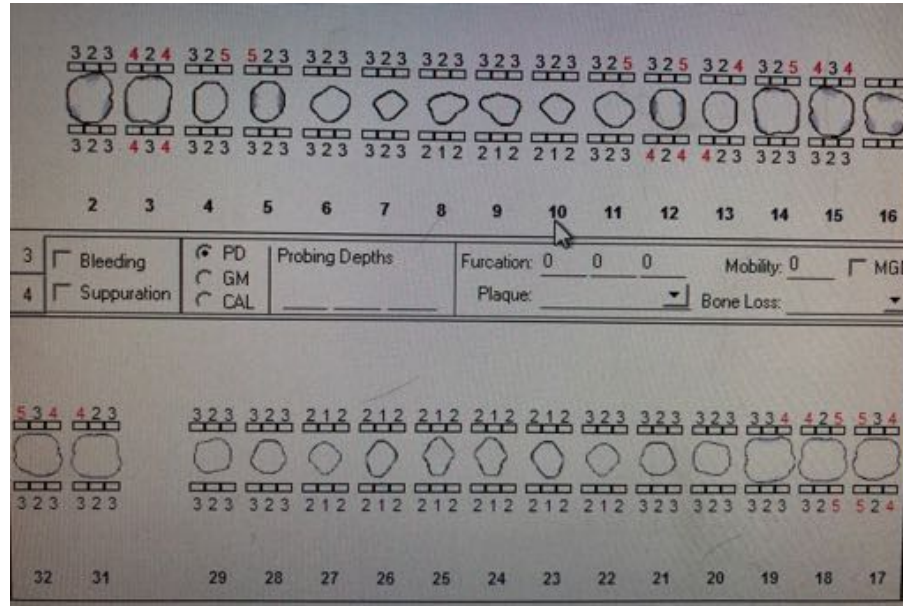


Radiographic evidence:
Noted on the posterior of tooth #3D, 2D, 15M, 16DM, 19D, 20M. It was difficult to spot other caries due to the veneers.



Gingival Description & Periodontal Status

- Generalized moderate inflammation with bulbous gingival papillae. Generalized erythematous, with localized pigmented gingiva on the anterior and rolled shiny puffy margins. Patient present with generalized attrition due to GERD and his dietary habits.
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Periodontal Charting

- Generalized 3-5mm PD.
 These readings indicate early to moderate gingivitis.
 Patient had mild-moderate bleeding upon exploring and severe bleeding upon scaling.

Dental Hygiene Diagnosis

Risk for caries: Patient is high risk for caries due to multiple risk factors

- Patient has GERD, increasing acidic attacks on the dentition and formation on caries and eroding the teeth
- Patient reported prolong exposure to acidic drinks and sugary foods
- Defective Composite Veneers (As Per Dr. Noel)
- Suspected clinical caries and active caries noted on radiographs
- Patient stated to floss using toothpick only after chewing khat
- Patient stated to have never use a floss threader or brushed at night
- Heavy plaque accumulation on sub, supra and interproximally due to poor home care

Type I with localized II active periodontitis on the posterior due to generalized 3-5mm probing depths. Mild bleeding upon exploring and probing and severe bleeding upon scaling. Radiographic evidence of generalized slight bone loss with localized moderate bone loss on the posterior of the right mandibular arch.



Dental Hygiene care Plan

- Visit One: Review medical history for any medications or systemic diseases in which are dental contraindications. Complete all assessments. Create Tx. Plan OHI, correct brushing technique; Modified bass technique, and informed patient about the dangers and oral effect from the use of khat. Lavaged UL quadrant using ultrasonic. Adult referral was given for clinical suspicious caries.
- Visit Two: Review medical history for any changes. Re-evaluated UL quadrant for any gingival changes. Exposed and reviewed FMS with Patient. OHI, correct flossing technique and dietary guidance. Scaled UL and LL quadrants using hand instruments and ultrasonic.
- Visit Three: Review medical history. Re-evaluation of LL and UL quadrant for any gingival changes. Review OHI correct techniques. SRP UR and LR quadrants using hand instruments and ultrasonic. Engine polish without any fluoride treatment.
- All appointments are on Saturday mornings to comply with patient work schedule.
- No anesthetic to be used
- Patient to be seated semi supine due to GERD

Consent For Treatment Plan

| Visit 1: <u>11/2/19</u> (Date) | Visit 2: <u>11/9/19</u> (Date) | Visit 3: <u>11/16/19</u> (Date) | Visit 4: _____ (Date) |
|--|---|---|--|
| Patient Education: <input checked="" type="checkbox"/> TB manual <input type="checkbox"/> power assisted <input type="checkbox"/> Interdental Aid _____ <input type="checkbox"/> Toothpaste _____ <input type="checkbox"/> Rinse _____ | Patient Education: <input type="checkbox"/> TB manual <input type="checkbox"/> power assisted <input checked="" type="checkbox"/> Interdental Aid <u>Fluoride</u> <input type="checkbox"/> Toothpaste _____ <input type="checkbox"/> Rinse _____ | Patient Education: <input type="checkbox"/> TB manual <input type="checkbox"/> power assisted <input type="checkbox"/> Interdental Aid _____ <input type="checkbox"/> Toothpaste _____ <input type="checkbox"/> Rinse _____ | Patient Education: <input type="checkbox"/> TB manual <input type="checkbox"/> power assisted <input type="checkbox"/> Interdental Aid _____ <input type="checkbox"/> Toothpaste _____ <input type="checkbox"/> Rinse _____ |
| Radiographs: Digital <input checked="" type="checkbox"/> FMS <input type="checkbox"/> BWS (V/H) <input type="checkbox"/> Pan Debridement: <input checked="" type="checkbox"/> Quadrant(s) <u>UL</u> <input type="checkbox"/> Whole Mouth _____ Pain Management: <input type="checkbox"/> Topical _____ <input type="checkbox"/> Oraqix _____ <input type="checkbox"/> Local Anesthesia _____ Coronal Polish: <input type="checkbox"/> Engine _____ <input type="checkbox"/> Air Polisher: Agent _____ Other: <input type="checkbox"/> Topical Fluoride: _____ <input type="checkbox"/> Arestin: _____ <input type="checkbox"/> Sealant(s): _____ <input type="checkbox"/> Impressions _____ | Radiographs: Digital <input checked="" type="checkbox"/> FMS <input type="checkbox"/> BWS (V/H) <input type="checkbox"/> Pan Debridement: <input checked="" type="checkbox"/> Quadrant(s) <u>UL & UL</u> <input type="checkbox"/> Whole Mouth _____ Pain Management: <input type="checkbox"/> Topical _____ <input checked="" type="checkbox"/> Oraqix _____ <input type="checkbox"/> Local Anesthesia _____ Coronal Polish: <input checked="" type="checkbox"/> Engine _____ <input type="checkbox"/> Air Polisher: Agent _____ Other: <input type="checkbox"/> Topical Fluoride: _____ <input type="checkbox"/> Arestin: _____ <input type="checkbox"/> Sealant(s): _____ <input type="checkbox"/> Impressions _____ | Radiographs: Digital <input type="checkbox"/> FMS <input type="checkbox"/> BWS (V/H) <input type="checkbox"/> Pan Debridement: <input checked="" type="checkbox"/> Quadrant(s) <u>LR & UR</u> <input type="checkbox"/> Whole Mouth _____ Pain Management: <input type="checkbox"/> Topical _____ <input checked="" type="checkbox"/> Oraqix _____ <input type="checkbox"/> Local Anesthesia _____ Coronal Polish: <input type="checkbox"/> Engine _____ <input type="checkbox"/> Air Polisher: Agent _____ Other: <input type="checkbox"/> Topical Fluoride: _____ <input type="checkbox"/> Arestin: _____ <input type="checkbox"/> Sealant(s): _____ <input type="checkbox"/> Impressions _____ | Radiographs: Digital <input type="checkbox"/> FMS <input type="checkbox"/> BWS (V/H) <input type="checkbox"/> Pan Debridement: <input type="checkbox"/> Quadrant(s) _____ <input type="checkbox"/> Whole Mouth _____ Pain Management: <input type="checkbox"/> Topical _____ <input type="checkbox"/> Oraqix _____ <input type="checkbox"/> Local Anesthesia _____ Coronal Polish: <input type="checkbox"/> Engine _____ <input type="checkbox"/> Air Polisher: Agent _____ Other: <input type="checkbox"/> Topical Fluoride: _____ <input type="checkbox"/> Arestin: _____ <input type="checkbox"/> Sealant(s): _____ <input type="checkbox"/> Impressions _____ |

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The findings of my assessments were explained to me and I authorize my student dental hygienist to perform the procedures delineated in the treatment recommendations above and I am willing to consent to care and photographs may be required based on my x-ray/visual needs. A thorough discussion with my student hygienist and/or clinical faculty supervisor, the nature, purpose of these procedures, available treatment alternatives, and the advantages and disadvantages of each, including cost treatment and insurance, if applicable, was discussed. I understand that I am



Implementation

- Visit One:
 - Medical history reviewed and Complete assessments; dental charting, perio and calculus detection.
 - Create Tx. plan for three visits
 - OHI, modified bass and education on the effects of khat on the oral health
 - Lavaged UL quadrant using ultrasonic
 - Adult referral was given for evaluation of defective veneers and suspicious caries. Patient stated that visiting his DDS would be difficult since his work consumes all his time.



Implementation

- Visit Two:
 - Review medical history for any changes and ask if they implemented OHI taught previous visit
 - Re-evaluation of UL quadrant for any gingival changes or any accumulated plaque
 - Expose and review FMS findings with patient
 - OHI, correct flossing technique since patient uses toothpick and only does it after khat resulting in heavy accumulation of plaque
 - Dietary guidance was given to reduce acidic and sugary foods due to high caries risk and educate him on GERD and it's effect on the dentition
 - Scale UL and LL quadrants using hand instruments and ultrasonic. Focused a little more on ultrasonic since patient was present with heavy accumulation of plaque



Implementation

- Visit Three:
 - Review medical history for any changes and ask patient if they implemented OHI taught previous visit
 - Re-evaluation of previous scaled UL and LL quadrants for gingival changes, residual calculus and any plaque accumulation
 - Review OHI techniques and see demonstration by patient to correct any misunderstandings on their side
 - SRP UR and LR quadrants using hand instruments and ultrasonic
 - Engine polish but didn't apply fluoride treatment due to possible case of fluorosis.



Evaluation of Care

- Patient kept the oral cavity moderately well maintained between visit. Patient stated improve on brushing twice daily but fails to floss regularly. There were still heavy plaque accumulation interproximal and sub gingival, patient seemed driven and determined to change their behaviors but it will take time
- Patient stated to have reduced the use of tobacco but continues to chew khat.
- Patient improved on their dietary consumption by reducing chocolate and candy consumption as well as acidic drinks.
- The main focus and concern in this patient is the chewing of khat, as it could lead to oral complications such as cancer. In a 3 month re-care, if the patient continues to improve on their OHI, stop tobacco use and reduce the usage of khat, there is no doubt in my mind that their oral health will improve dramatically.



Referral

- The patient was given referral for suspicious caries and defective veneers.
- Patient stated that he had his own DDS and would bring the referral to his current doctor whenever he has the chance.



Continue Care Recommendation

- Patient was put on a 3 month recall since he was a high risk caries with heavy plaque accumulation. 3 months is ideal for this patient since we could re-evaluate his OHI and improve on it, to remind the patient about the importance of quitting tobacco and khat use. Furthermore, the patient also has GERD which could further demineralize and erode his dentition, fluoride treatment on visits could help in minimizing effects of GERD.



Final Reflection

- This patient was actually one of my closest friends, as he was very tolerant and understanding throughout the whole treatment. At first the patient genuinely wanted to learn and improve on their oral health. However, towards the third and final visit, he was quit tired from coming all the way from the Bronx for a 3 hour cleaning. If I had the chance of redoing their treatment plan, I would and could complete the patient in 1-2 visit. Other then that, the patient was very happy with the result and everything went well.