NEW YORK CITY COLLEGE OF TECHNOLOGY
DEPARTMENT OF DENTAL HYGIENE
CASE PRESENTATION

UGILOY HAMRAYEVA

PATIENT PROFILE

Ms. D is 32 years old African American female.

The patient's status is single and employed. PDH: intermittent care (pt. reports that she had regular dental care before moving to a new place but hasn't visited a dentist in a couple of years).

Last dental exam/hygiene services Feb of 2019. Last dental radiographs were taken Feb 2018-PAN.

The patient states that she uses a powered toothbrush with "up and down" motion with Crest toothpaste twice a day. Pt. states that she flosses sometimes. Pt. uses Crest rinse twice a day. Pt. cleans her tongue with a toothbrush.

CHIEF COMPLAINT

- Patient states "She has sensitivity to cold all over her mouth".
- Pt stated that she cannot drink cold drinks and even had difficulty rinsing her mouth during the treatment at the initial visit.
- Ms. D was worried about her sensitivity and hoped that I can recommend her products that will help her.
- Ms. D stated she felt ok with the appearance of her teeth.

HEALTH HISTORY OVERVIEW

Blood Pressure: 124/80, Pulse: 84, ASA: II.

Medical Conditions:

- Penicillin intolerance- which was marked as penicillin allergy in the medical history. The reaction that pt. had to penicillin was described as - nausea, vomiting, diarrhea.
- Pt. had gastric sleeve surgery done in September of 2020 due to excess weight.

Current Medications:

- Pt. is not taking any medication.

PENICILLIN

According to the article "The Discovery of Penicillin—New Insights After More Than 75 Years of Clinical Use," by Robert Gaynes, penicillin was discovered by a bacteriologist Alexander Fleming at St. Mary's Hospital located in London.

Alexander Fleming saw a "zone around an invading fungus on an agar plate". When he separated the mold, he was able to identify that mold belonged to the genus of Penicillium. He obtained an extract from the mold and called it penicillin.

In the 1940s, the extract that was obtained from the fungus was purified by Ernst Chain and started testing its effectiveness at Oxford University.

After penicillin discovery, antibacterial effects of penicillin was determined against staphylococci and gram-positive organisms.

Around 1942 penicillin was available to treat less than 100 patients in the US.

References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5403050/

PENICILLIN

Every time a patient comes into a medical facility, a medical form is filled out and one of the big check box questions are allergies. It is vital to know if the patient has allergies to any medication or food etc.. before any drug is administered or prescribed.

According to the article "Evaluation and Management of Penicillin Allergy" most commonly self reported drug allergy in the US-penicillin. However, after full evaluation for penicillin allergies it was determined that 80-90% were able tolerate penicillin.

Ms. D came into the office and checked the box for allergies to penicillin and described the reaction that she had as "nausea, vomiting and diarrhea." After faculty check in, it was determined that the condition that she described sounded more like an intolerance rather than true allergic reaction.

Difference between allergies and intolerance is based on the symptoms they present with. Symptoms of allergies can be described as "hives, redness, swelling etc.." while symptoms of intolerance can be described as "nausea, vomiting and diarrhea."

References:

https://www.mayoclinicproceedings.org/article/S0025-6196(17)30769-3/fulltext

http://www.chisjh.org/press-releases/Health%20Matters.pdf

BARIATRIC SURGERY

According to the article "Treating Patients After Weight Loss Surgery," the prevalence of obesity has increased in the US and the number of people who are choosing to undergo bariatric surgery has increased more than 600%.

Restrictive surgery and malabsorption surgery are 2 main types of bariatric surgery. Examples of restrictive surgery are gastric banding, vertical banded gastroplasty, and sleeve gastrectomy. Example of malabsorption surgery is known as Roux-en-Y gastric bypass (RYGB) surgery.

Ms. D had sleeve gastrectomy surgery done in September of 2020 due to excess weight.

References:

https://dimensionsofdentalhygiene.com/article/treating-patients-after-weight-loss-surgery/

BARIATRIC SURGERY

As a result of the gastric sleeve surgery, most of the stomach is removed leaving only a narrow gastric tube. By doing this surgery, patient not only limits the intake of the food, but also removes ghrelin producing cell of the stomach, which are also known as "hunger hormone."

Bariatric surgery is considered one of the most effective treatment options for obesity.

Response to the bariatric surgery vary from person to person. Some people try to eliminate beef products and vegetables from their diet because of the need for prolonged mastication and possible obstruction of the GI tract.

There are several factors that effect weight loss after bariatric surgery: age, race, gender, body mass, education and psychological state and level of activity. Patients who tend to have better results have the following characteristics: young Caucasian females who exercise regularly, compliant with the recommendations, and follow the strict dietary restrictions.

References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2729256/

DENTAL HYGIENE MANAGEMENT

The dental hygienist should collaborate with other health care provider and able to address any question or concern that a patient who undergoes gastric sleeve surgery.

Neither of the conditions that Ms. D presents with is contraindicated for any dental hygiene care.

Gastric sleeve surgery patients are at higher risks for oral complication and adverse effects such as erosion and dental caries. Nonetheless, there is a positive effect of gastric sleeve surgery to the periodontal status of the patient. Based on some research, it was determined that after the bariatric surgery there is an increase in anti-inflammatory mediators and decreased proinflammatory response resulting in decreased periodontal inflammation.

Due to Ms. D having intolerance to penicillin, she would be allowed to take medication from the same family such as Amoxicillin, Ampicillin, Nafcillin, Augmentin, Zosyn.

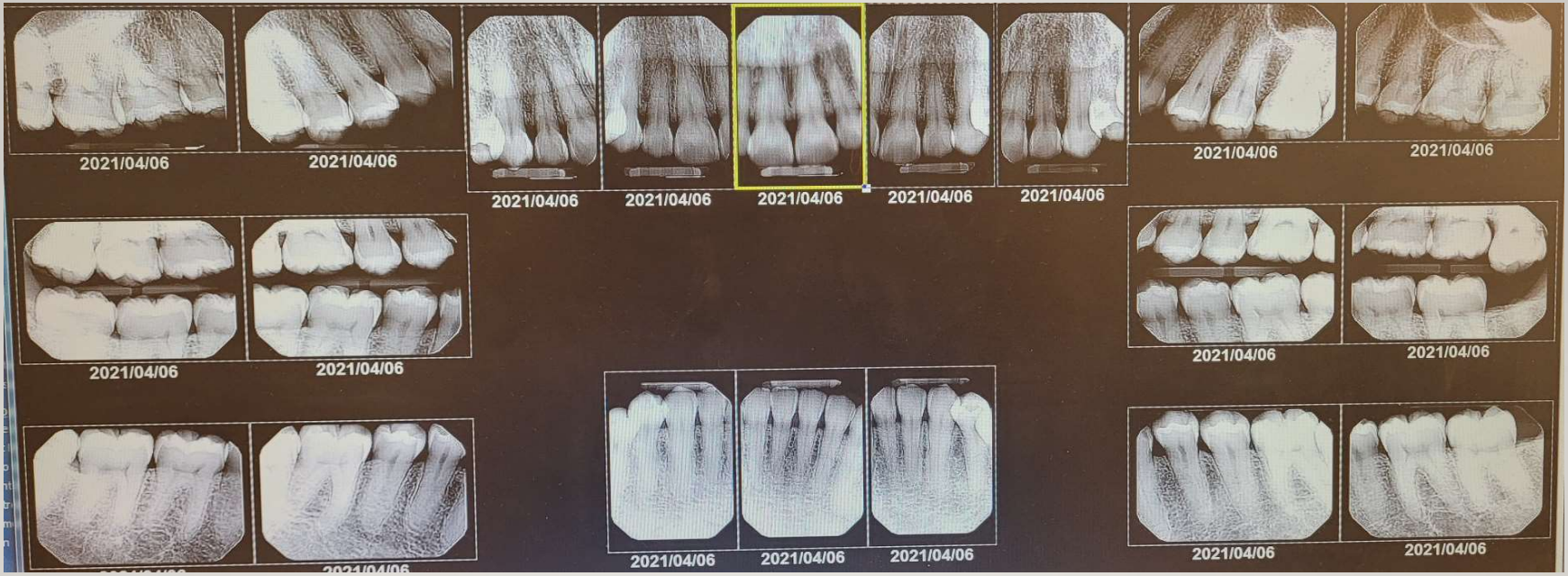
References:

https://dimensionsofdentalhygiene.com/article/treating-patients-after-weight-loss-surgery/

http://www.chisjh.org/press-releases/Health%20Matters.pdf

Comprehensive Assessments

RADIOGRAPHS



- Radiographic evaluation of bone level: Bone level WNL.
- #16 supra-erupted.
- #17 missing (was extracted).
- Calculus calculus on lower anterior and #29-M
- No restorations are noted
- No caries noted
- No PAP noted

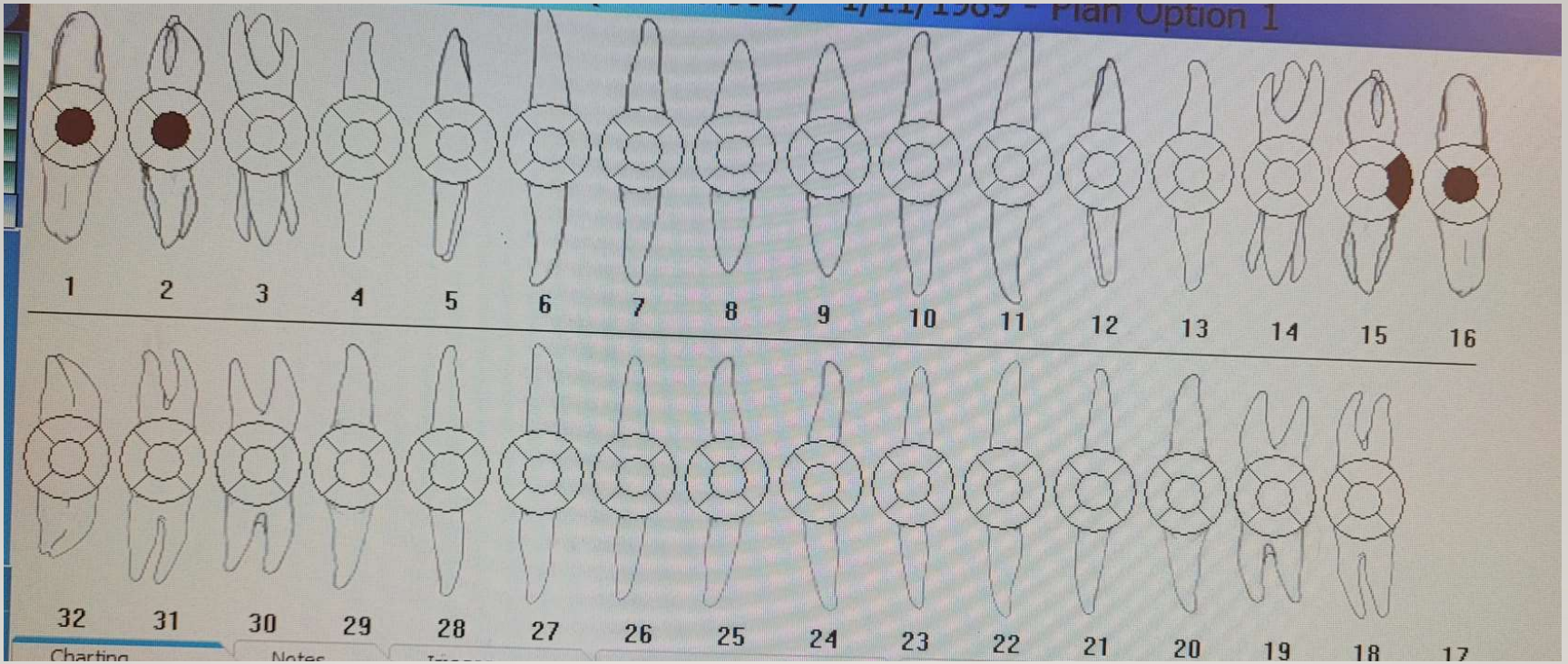
SUMMARY OF CLINICAL FINDINGS

EI/IO Findings: Bilateral submandibular lymph nodes- asymptomatic, macules on the face, birth mark on the left cheek. Enlarged tonsils- asymptomatic, slightly coated tongue, palatine tori, bilaterally enlarged maxillary alveolar bone, mandibular tori-left side, bilateral line alba, pt. bites her check-she is aware.

Occlusion: Class III- bilateral. Anterior open bite.

Deposits: Localized moderate subgingival calculus is noted on posterior teeth. Localized moderate supragingival is noted on lingual of mandibular anterior teeth. Localized moderate biofilm noted interproximal.

DENTAL CHARTING



- No restoration is noted
- Suspicious carious lesions on #1-O, #2-O, #15-D, and #16-O
- Missing teeth: #17.
- Localized attrition on #23-26. Extrusion on #16.

CARIES RISK ASSESSMENT

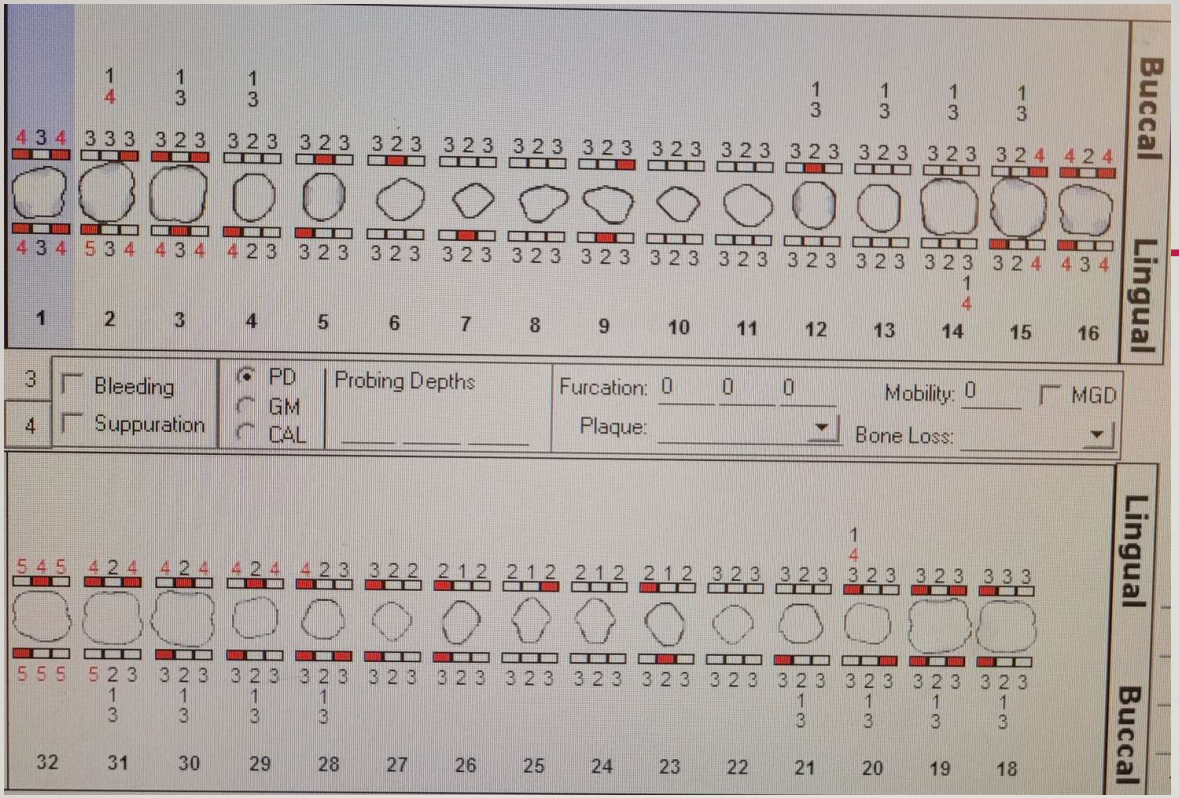
- Clinically visible suspicious carious lesions on #1-O, #2-O, #15-D, #16-O.
- Radiographic evidence of suspicious carious lesions: None.

GINGIVAL DESCRIPTION AND PERIODONTAL STATUS

Gingival Description: Generalized pigmented gingiva. Generalized moderate marginal gingival inflammation. Interdental papillae fill interdental spaces. Marginal gingiva is rolled on buccal of #27-32 and lingual of #22-27. Marginal gingiva is soft and spongy in the areas of inflammation, loss of stippling and shiny. Generalized slight BOP. Localized 1mm recession noted on maxillary posterior teeth.

Periodontal Status: Moderate gingivitis-biofilm induced due to 2-5mm PD, generalized BOP, and intact bone level.

PERIODONTAL CHARTING



- Generalized moderate bleeding.
- Localized 2-5mm PD on posterior teeth.
- Generalized 2-3mm of PD on all quadrants.
- Localized 1 mm gingival recession noted on maxillary posterior teeth.
- No furcations and no mobility present.

DENTAL HYGIENE DIAGNOSIS

Periodontal Diagnosis:

Moderate Biofilm Induced Gingivitis-biofilm induced due to:

- Pt. chief complaint was based on her concern of sensitivity to cold all over the mouth.
- Generalized moderate bleeding upon probing and exploring.
- Radiographic evidence: No bone loss
- Generalized moderate marginal gingival inflammation.
- Localized 2-5mm PD on posterior teeth. Generalized 2-3mm of PD on all quadrants.
- Localized moderate subgingival calculus is noted on posterior teeth. Localized moderate supragingival is noted on lingual of mandibular anterior teeth.
- Localized moderate biofilm noted interproximal.
- Localized 1 mm gingival recession noted on maxillary posterior teeth.

DENTAL HYGIENE DIAGNOSIS

Risk for Caries:

Patient is at high risk for caries due to:

- Clinically present suspicious carious lesions.
- Frequent intake of food due to strict diet after gastric sleeve surgery resulting in increased risk of plaque accumulation.
- Xerostomia can also contribute to development of caries lesions due to decreased water consumption.
- Incorrect use of powered toothbrush may lead to biofilm accumulation resulting in high caries risk.
- Biofilm accumulation interproximally due to pt. not flossing every day.

DENTAL HYGIENE CARE PLAN

Visit One:

- PI/OHI: Teach how to properly utilize powered toothbrush.
- Demonstrate flossing technique.
- Use pain management (benzocaine 20%) due to increased sensitivity.
- Recommend toothpaste to decrease sensitivity.

Visit Two:

- PI/OHI: Review previously thought method of brushing and flossing.
- Expose FMS
- Debridement of quadrants UR and LR hand scaling only
- Use pain management (Oraqix or Local anesthesia) due to increased sensitivity.

Visit Three:

- Review OHI/PI
- Debridement of LL and UL- hand scaling only
- Pain management (Oraqix or Local anesthesia) due to increased sensitivity.
- Engine polish with fine paste and 5% Varnish and provide post-op instructions.

D TB manual D power assisted	D TB manual D power assisted	D TB manual D power assisted	D TB manual D po
D Interdental Aid Floss	D Interdental Aid Review	D Interdental Aid Review	D Interdental Aid
D Toothpaste D	D Toothpaste	D Toothpaste	D Toothpaste
Rinse	D Rinse	D Rinse	D Rinse
Radiographs: Digital	Radiographs: Digital	Radiographs: Digital	Radiographs: Digit
D FMS D BWS (V/H) D Pan	D FMS D BWS (V/H) D Pan	D FMS D BWS (V/H) D Pan	D FMS D BWS (
Debridement:	Debridement:	Debridement:	Debridement:
D Quadrant(s) 6-8	D Quadrant(s) 1 and 4	D Quadrant(s) 2 and 3	D Quadrant(s)
D Whole Mouth	D Whole Mouth	D Whole Mouth	D Whole Mouth
Pain Management:	Pain Management:	Pain Management:	Pain Managemer
D Topical	D Topical	D Topicl	D Topical
D Oraqix	D Oraqix as needed	D Oraqix as needed	D Oraqix
D Local Anesthesia	D Local Anesthesia as needed	D Local Anesthesia	D Local Anesthes
Coronal Polish:	Coronal Polish:	Coronal Polish:	Coronal Polish:
D Engine	D Engine	D Engine	D Engine
D Air Polisher: Agent	D Air Polisher: Agent	D Air Polisher: Agent	D Air Polisher: Ag
Other:	Other:	Other:	Other:
D Topical Fluoride:	D Topical Fluoride:	D Topical 6% Fluoride:	D Topical Fluorid
D Arestin:	D Arestin:	D Arestin:	D Arestin:
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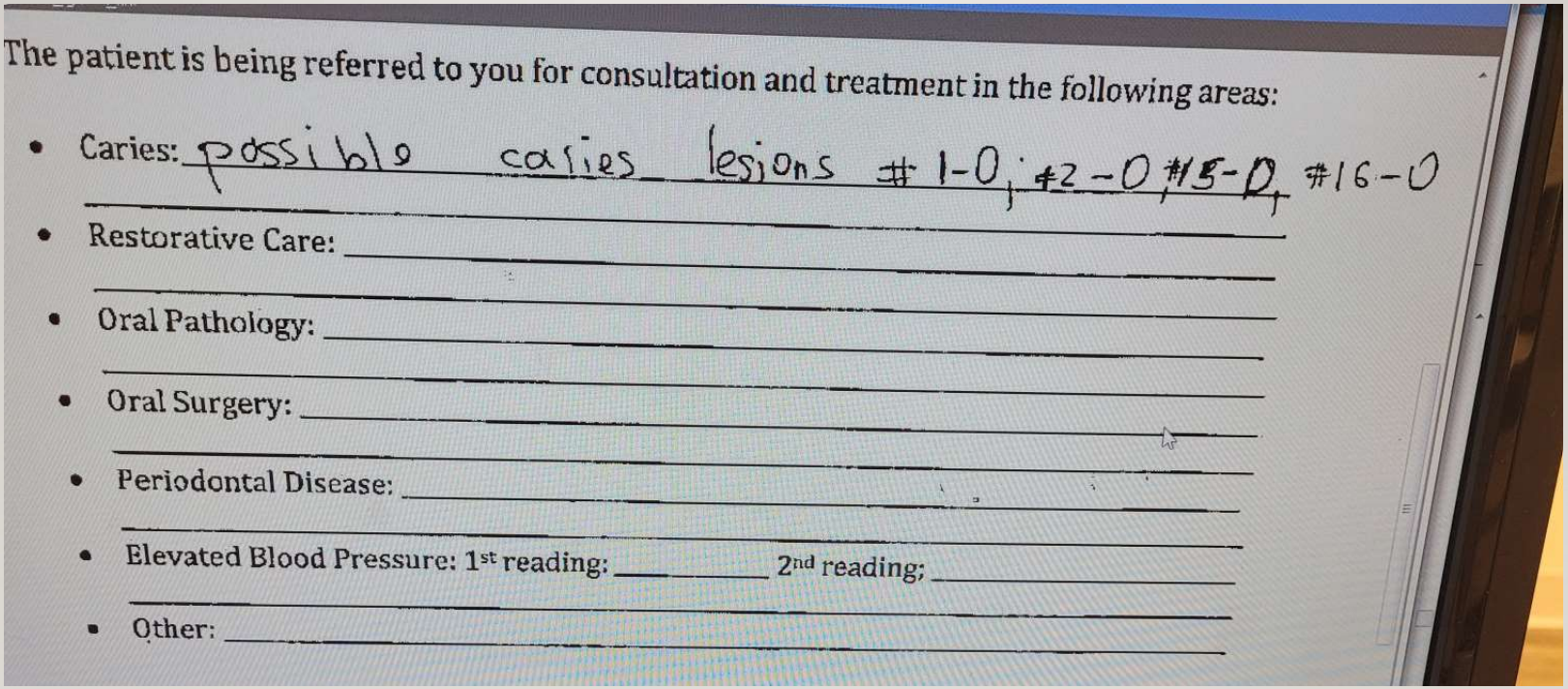
IMPLEMENTATION

Visit One:

- Pt. was educated and demonstrated how to use powered toothbrush using the sample brush from the clinic. The importance of powered toothbrush and comparison to manual toothbrush has been made. Pt. was explained that electric toothbrush bristles rotate and vibrate in certain manner and helps to get rid of biofilm buildup that are on the teeth and the gingiva. One of the advantages of the electric toothbrush is increased number of micro-movements every time you move the brush from one tooth to another. Pt. was explained the importance of brushing for 2 minutes and the ideal way to monitor it is to use a toothbrush that turns off after 2min.
- Pt. was also demonstrated the flossing technique. After disclosing solution was used, pt. was able to visualize plaque build up and after being able to successfully show flossing, she observed pink colored biofilm on the floss.
- Benzocaine 20% was used during periodontal probing due to increased sensitivity. Ms. D was recommended Sensodyne toothpaste to decrease sensitivity.
- *An adult referral was given to the patient to see a general dentist for the suspicious carious lesions.

REFERRAL



The patient is being referred to you for consultation and treatment in the following areas:

- Caries: possible caries lesions #1-O, #2-O, #15-O, #16-O
- Restorative Care: _____
- Oral Pathology: _____
- Oral Surgery: _____
- Periodontal Disease: _____
- Elevated Blood Pressure: 1st reading: _____ 2nd reading: _____
- Other: _____

IMPLEMENTATION

Visit Two (revisit):

*Due to the patient running late the appointment, treatment plan was modified: FMS exposed and URQ scaled.

- Pt. reported that there was no changes in medical history, no recent hospitalizations/surgeries. IO/EO: WNL. Pt. started using Sensodyne toothpaste with electric toothbrush 2x a day and flossing 2x a day. Pt. has been using Crest 2x a day.
- No teeth were scaled on the last visit.
- Pt. has not changed since the last visit. However, pt. had more visible plaque on the lingual of mandibular anterior teeth. Pt. stated that she was compliant with the recommendations and OHI. Importance of brushing and flossing were reinforced and reviewed.
- FMS was exposed by another student (Yesenia Lorenzo). Findings were shared and discussed with the patient.
- Half of carpule of 3% Carbocaine plain was administered via ASA, MSA, PSA local infiltration on URQ. Debridement of URQ with hand instrumentation only with pain management Carbocaine 3%. ASA, MSA, PSA local infiltration were administered for patient comfort. Ms. D was really scared of injection but after the explanation of the importance of anesthetic and its benefits, pt. agreed to the administration of Local Anesthetic.

IMPLEMENTATION

Visit Three (revisit):

- Pt. reported no changes in medical history, no recent hospitalization/surgeries. Ms. D has been using Sensodyne toothpaste for couple of week and reported that her sensitivity has decreased. Pt. started using Act Fluoride Sensitivity mouth rinse for the management of sensitivity.
- IO: pt. has a bite mark on buccal mucosa 1x2 red dot lesion adjacent to #19-O. Pt. was aware. Gingival Statement on previous scaled quadrant (URQ): minimal bleeding upon exploring and gingival inflammation has decreased with no residual calculus being noted.
- Review of the electric toothbrush and flossing were completed. Pt. was demonstrated brushing focusing on the lingual of mandibular anterior teeth.
- A carpule of Oraqix (2.5% Lidocaine and 2.5% prilocaine) and 20% Benzocaine were administered on quadrants LR, LL, UL. Ms. D was still "really scared of injection" and wanted to try an alternative method of pain management. Pt. was demonstrated how Oraqix works and explained that it is non injectable form of pain management. Pt. agreed to the use of Oraqix and was comfortable with the procedure.
- After the completion of the debridement, engine polished with fine paste and administration of 5% varnish were finished. Post-op instructions were given to the patient.

IMPLEMENTATION

The challenge that I faced throughout Ms. D treatment was pain management.

Ms. D was very nice patient, but she did not like the injections. She had difficulty looking at Oraqix syringe during demonstration, even after explaining that is non-injectable form of anesthesia.

Ms. D was a heavy case and use of local anesthesia would have helped to accomplish painless debridement. During the first appointment, I was able to explain to her the importance of using anesthesia and explained to her that if she did not like the pain or sight of the injection, next time we will try an alternative method.

Third visit- revisit, Ms. D came with a set mind that she didn't want to use any local anesthesia. With the respect to her wishes, we tried to use Oraqix, and scale 3 teeth at a time trying to be very gently. I gave her break between sets of 3 and if she felt anything I would add a little more of the Oraqix or use topical anesthesia.

EVALUATION OF CARE-OUTCOME OF CARE-PROGNOSIS

Ms. D's main concern was sensitivity. She was recommended to try Sensodyne and ACT fluoride Sensitivity mouth rinse to decrease sensitivity. During the last visit, Ms. D was happy to let me know that her sensitivity is getting better. In terms of the management of biofilm, the first two visit PI score did not change. Moreover, there was more biofilm noted during the second visit. After continuous reinforcement, the was a decrease in the PI on the last visit.

If the patient continues to adhere to the OHI and products recommended and use the referral that was given to visit the general dentist, more stable and healthier oral cavity.

REFERRALS

An adult referral was given to the patient because of suspicious caries lesions present clinically.

Ms. D was referred to see a general dentist.

CONTINUED CARE RECOMMENDATIONS

The recare recommendation interval given to the patient is six months.

A 6-months recare was recommended because patients periodontal status was classified to be gingivitis and generalized moderate subgingival calculus present. I believe that 6 months recall is optimal for Ms. D to prevent further disease progression from gingivitis to periodontitis and to maintain optimum periodontal health.

FINAL REFLECTION

Reflecting on Ms. D's case, I see that she is willing to improve her oral health and is ready to follow up with the referral as well as the recommendation that was given to her.

I learned from her case the importance of knowing specific conditions and procedures. By doing a little more research on gastric sleeve surgery, I learned how it can affect oral health and recommendation that I can provide to my future patients. Also, I see the importance of being able to distinguish clinical symptoms of certain conditions like allergies and intolerance. If the clinician is knowledgeable and eager to learn and study, there is a greater chance of improving the patient's oral health