**PREGNANCY ORAL HEALTH CASE**

**Moderator Version**

**Learning Outcomes (HRSA 2014):**

* **Risk Assessment**: Identify factors that impact oral health and overall health
* **Oral Health Evaluation**: Integrates subjective and objective findings based on completion of a focused oral health history, risk assessment and performance of oral screening.
* **Preventive Intervention**: Recognize options and strategies to address oral health needs identified by a comprehensive risk assessment and health evaluation.
* **Communication and Education**: Facilitating providers understanding of the oral and systemic relationships that can be addressed during all medical and dental visits.
* **Interprofessional Collaborative Practice**: Shares responsibility and collaboration among health care professionals in the care of patients and populations with or at risk for oral disorders.

**Patient Population:** Pregnancy

**Case Presentation:**

* **Demographics:** 28 year old Hispanic female working part time in a clothing factory.
* **Chief Concern**: Routine OB visit. Patient’s chief concern is pain in her lower front teeth.
* **Medical/Obstetrical History**: Ingrid is G2P1 (multiparous; second pregnancy) at 30 weeks gestation with a singleton pregnancy. Her first delivery resulted in a preterm vaginal delivery at 32 weeks gestation following preterm labor with no clear etiology. Prenatal labs and 18 week ultrasound were normal during this pregnancy. She is allergic to amoxicillin and was diagnosed with gestational diabetes 3 weeks ago. A review of her diet history reveals suboptimal nutrition practices with Mountain Dew being her favorite drink. She has seen a dietitian and is working on improving her diet to control blood sugar levels and takes glyburide 2.5mg bid. Ingrid is on intramuscular 17-hydroxy progesterone weekly to decrease the risk of recurrent preterm delivery and is taking acetaminophen as recommended by her prenatal provider when she experiences round ligament pain. A brief dental history reveals she has not seen a dentist in several years.
* **Social History**: Ingrid recently immigrated to the United States from Guatemala. Because she does not have a lot of time at work and finances are tight, she often skips meals and snacks frequently on inexpensive sugary snacks/drinks at work.
* **Lab findings**:Her initial 50g glucose tolerance test (GTT) was 180 mg/dL. Follow up 3 hour OGTT was 100/190/140/100. All other prenatal labs were within normal limits.
* **Oral exam**: Swollen gums, tenderness upon palpation, missing teeth and extensive dental caries (tooth decay).

You decide to refer her to a dentist to address her oral pain.

**Dental Evaluation**

* **Dental History**: She reports her last dental visit occurred 4-5 years ago in Guatemala. Since living in the United States, she has not sought dental care because of finances. She does not brush her teeth routinely due to the lack of importance placed on oral hygiene as a child/adult. Her dental pain is waxing and waning but has been waking her up at night for the last 2 days. She is taking acetaminophen 500mg 1-2 tabs 4-5 times a day. There are currently no systemic signs of infection (i.e. fever, malaise, etc.).
* **Clinical examination**:
  + - Extraoral: Afebrile, no evidence of facial swelling and temporal mandibular joint was within normal limits.
    - Intraoral:Soft tissue examination reveals a dental abscess present in the mandibular anterior region facial to central incisors. Gingival recession and gingivitis are present (bleeding gingiva when probing). Hard tissues shows the permanent dentition with multiple missing teeth and severe dental caries. See attached photos.

The dentist calls the obstetrical provider to discuss the plan and concerns regarding the amount of acetaminophen being consumed. The dentist has questions about management given the gestational diabetes.

**General Questions:**

1. **What are Ingrid’s primary health concerns and needs?**
   * Oral pain – management of etiology and pain control
   * Overuse of acetaminophen
   * Round ligament pain
   * Gestational Diabetes
   * Social issues – finances, poor diet, access to dental care
2. **What are the oral-systemic health issues?**
   * Dental caries is so severe that the infection has reached the pulp (nerve) of the lower incisor. Bacteria in the mouth can reach the entire body. Her abscess is localized, but should systemic signs of infection be noted, a fetal evaluation would be warranted.
   * There is an association between periodontal disease and low-birth weight/ pre-term births (LBW/PT), although the influence of periodontal treatment during pregnancy is inconclusive on the impact of preventing LBW/PTL in the current pregnancy. The periodontitis may have contributed to her past preterm delivery and again heightens her risk.
   * Diabetes may increase Ingrid’s risk of periodontal disease.
   * Acetaminophen overuse may have adverse effects on the liver.
3. **Identify risk factors that may have contributed to her oral and systemic conditions**.
   * Frequent grazing (snacking), regular sugary snack/drink consumption, poor oral hygiene practices, lack of fluoride exposure, and no regular dental care.

**Management:**

1. **How would a primary care (non-dental) provider address Ingrid’s chief complaint?**

* Pain management – take a more specific history of acetaminophen dosing; because of breakthrough pain, consider alternative pain meds such as opioids; avoid NSAIDS in 3rd trimester; manage underlying cause of pain. Consider a possible language barrier in obtaining this detailed history and in providing pain medication recommendations.
* Refer to a dentist – role play the call
  + Call needs to be done urgently
  + Need to give sufficient obstetrical and medical history and OK management up front based on National Consensus Statement of safety of dental care during all trimesters in pregnancy. Discuss how you can work together since she has gestational diabetes and is high risk for preterm labor. In this case, remind the dentist about the amoxicillin allergy.
  + Help to address payment and insurance coverage issues. In some states, pregnant women qualify for dental coverage through Medicaid benefits. A patient navigator or case-manager can be invaluable in helping her to obtain dental coverage or find affordable dental care through a local safety-net option.
* Discuss prevention of future dental caries and periodontitis
  + Diet, hygiene including fluoride toothpaste and flossing, regular affordable dental care. Work with dental team on common messaging regarding prevention and treatment.
* Reflect on not having addressed her oral health issues earlier in the pregnancy. Could some of these issues have been prevented?

1. **How should a dental provider address Ingrid’s chief complaint?**

* Perform a comprehensive clinical examination with a focus on the localized area of discomfort. Perform appropriate nerve testing (vitality/pulpal tests) of lower incisor as a component of the examination.
* Intraoral Radiographic:
  + Radiographs confirm periapical pathology on mandibular incisors (radiolucency) and previous dental restorations (radiopacity on anterior teeth). Radiographs are safe as needed throughout pregnancy.

1. **What are the priority issues in managing Ingrid’s chief complaint?**
   * Address the acute dental pain and treatment: consider risk, benefits and treatment options including extraction vs root canal therapy followed by the need for an interim or more permanent tooth replacement. Treatment costs should be reviewed, allowing the patient to make the most informed decision. Consider permanent solutions as it challenging for new mothers to return after the birth of a child.
   * Assure that the patient’s sugar levels are controlled prior to beginning the procedure, that they have eaten regular meals, and if they have taken prescribed medications.
   * Check liver enzymes to assure that her overuse of acetaminophen has not caused damage. Adjust pain medications.
   * Patient and provider should discuss these treatment options and choice may be based on financial considerations, treatment recommended, and prognosis. The teeth may have a questionable prognosis even with a root canal. Additional treatment (dental decay excavation) would be indicated if the patient were to consider root canal therapy.
2. **What should the dental provider consider in treating this pregnant patient in the dental chair to maximize safety and comfort?**

* **Anesthetic:** Lidocaine with epinephrine is safe and is considered the optimal anesthetic to use during pregnancy, unless an allergy to this agent is reported.
* **Addressing Anxiety**: Nitrous oxide may be used during pregnancy when topical and local anesthetics are inadequate. Low levels of nitrous oxide should be used. The National Guidelines recommend consultation with the prenatal provider. (Note: nitrous oxide is used during labor for pain management in some hospitals).
* **Positioning**: Care during the second trimester provides the greatest comfort for dental care. However, dental care is safe in all trimesters. If the patient is later in her pregnancy, optimizing comfort by positioning the patient to the left lateral position which increases the uterine-placental blood flow. Supporting with a pillow is beneficial to prevent pressure from the uterus on the vena cava. An upright position helps prevent acid reflux.

1. **Given Ingrid’s financial limitations, she decides to have the tooth removed instead of undergoing root canal therapy. She experiences post-operative pain and contacts her dentist. The dentist recommends opioids as needed in her case because of her recent overuse of acetaminophen. Do you have any concerns about this recommendation?**
   * The possibility of multiple providers simultaneously recommending pain medications without being aware of each other’s recommendations is a concern.
   * A language barrier may result in her being overprescribed or overusing opioids or other pain medications.
   * Ibuprofen may be used in short duration during pregnancy, 48-72 hours. However it has to be avoided in the 3rd trimester, so it would not be a good choice for Ingrid.

**Case Outcome:**

**Discussion Questions:**

1. **What is the importance of the interdisciplinary team in addressing this oral-systemic health care needs of the pregnant woman?**
   * An interdisciplinary team can facilitate the ability to provide timely care by:
     1. Performing routine oral exams and making early referrals.
     2. Knowing all team members can make communication easier.
     3. Working together to control the gestational diabetes – shared, consistent messaging regarding adherence to medications, adequate control of sugar level leading up to the procedure, and eating before a procedure.
2. **What is the importance of the interdisciplinary team in addressing post-operative pain for the pregnant woman?**
   * It is critical to have good communication between providers as there is a shared responsibility to the patient to assure optimal outcomes. Communication can help avoid duplicate prescriptions of opioids or mixed messages about over-the-counter pain medications. Team members should discuss if they have concerns about patients abusing medications or having risks or a history of abuse.
3. **What preventive messages can be linked during pregnancy to promote good oral health for both baby and mother?**
   * First – obstetrical providers must ask early (preferable at the intake visit) about oral health and examine and document and refer routinely. This was not done in this case.
   * Other topics to include:
     1. Association between alcohol and tobacco and orofacial clefts.
     2. Folic acid (prenatal vitamins) is protective for oral clefts.
     3. Link between nutritional practices and dental caries.
     4. Poor maternal oral health and association with early childhood caries (transmission of bacteria from mother to child).

**Discussion:**

* There is a strong relationship between oral and systemic health; pregnancy and diabetes are good examples (Zi, 2015; Matthews, 2002).
* Dental treatment is **safe during all stages of pregnancy.** (Oral Health Care During Pregnancy: A National Consensus Statement 2012).
* Dentists report not always being comfortable with the care of pregnant women (Prada, 2010). Referring all health care professionals to the Oral Health Care During Pregnancy: A National Consensus Statement (2012) and help facilitate identifying a dental home rather than simply making a referral is key. The Prenatal Oral Health Program website can serve as a template for interprofessional collaboration ([www.prenataloralhealth.org](http://www.prenataloralhealth.org)) and promotion oral health in the medical home (Quinonez et al., 2013).
* It is important to identify and prioritize strategies to prevent or mitigate risk impact for oral and systemic diseases. Collaboration among health care providers can facilitate this process, particularly if questions arise during pregnancy. Specific to diabetes, making sure glucose is well- controlled before proceeding with elective care. For urgent care, collaborate with prenatal providers to facilitate managing acute needs.
* Oral health literacy can influence an individual’s understanding of health related information and subsequently influence what they know and how they behave (Hom, 2012). In this scenario, low oral health literacy and the lack of coordinated care could have increased the risk of this woman overdosing on acetaminophen to manage her pain.
* It is not simply a matter of surgically addressing dental disease of patients, but it is our responsibility to help identify etiology of disease to promote prevention. All primary health care providers can collaborate by implementing appropriate patient-centered preventive oral health interventions and strategies as a component of prenatal care. For obstetrical providers, have them review the ACOG Committee Opinion on this topic.
* There is a strong association between maternal oral health and the child’s oral health, thus emphasizing the importance of health care professionals having a life-course trajectory approach in oral health promotion and disease prevention in clinical practices (Weintraub, 2010).

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