Boston University Chobanian & Avedisian School of Medicine
Physician Assistant Program

Prenatal Care Workshop – Patient Case #1 – Answers

Instructions: To do this case, you will need to assume that the date of the patient visit is January 2 of any year.

Instructor notes: The purpose of the case is to have students work through an early pregnancy prenatal visit where the EDD is uncertain. Her LMP would make her 8 weeks and uterine size is 14 weeks. Students will develop a differential diagnosis for disparity in dates and size and discuss development of an EDD. Ultrasound used to determine gestational age and reveal fibroids as the cause of the large uterus. They have an opportunity for patient education.

Patient History: 23-year-old G1P0 cis-woman presents with a 2-month history of amenorrhea. She notes some breast tenderness and morning nausea and had a positive home pregnancy test on 12/6 which was confirmed by a positive office test today (Jan 2). Her LMP was 11/3. She does note constipation without any bleeding, spotting, pain or cramps.

PMH - S/P tonsillectomy at age 5; S/P appendectomy at age 14
Menarche at age 13 with long standing oligomenorrhea
Used OCPs for birth control but went off them 6 months ago
Medications - none

FH: Mother 54 Alive and well; Father 58 with hypertension and a recent MI; sister 24 alive and well with 3 children.

SH: works as a hairdresser, likes to garden, lives with husband, 2 cats and a dog, drinks wine on weekends; non-smoker; no recreational drug use

PE: Height 5'2", Weight 155 lbs, BP 110/68, P 86, RR 16, Temp 98.6
Abdomen: Soft non tender without palpable masses; no audible fetal heart on Doppler
Pelvic Exam: Speculum exams shows a cervix with bluish color and no lesions, Bimanual exam shows a 14-week sized non-tender uterus and both adnexa are non-tender with no palpable masses

Q1. What is your differential dx at this point?
The patient is 8 weeks by her LMP and 14 weeks by exam and there is no audible fetal heart. She has an history of oligomenorrhea so that her LMP might not accurately reflect when she conceived. Her BMI could also account for the absent fetal heart.

1. Missed abortion – absent fetal heart but positive pregnancy test raises the question of a miscarriage or fetal loss. She has had no bleeding so this could not be an incomplete or threatened abortion.

2. Normal pregnancy with incorrect dates - patients with irregular menses have ovulation which is irregular too. She could have conceived later than her LMP would suggest.
3. Ectopic – missing fetal heart always raises the question of ectopic. She does not have any pain and her uterus is enlarged however the enlarged uterus could be fibroids or something else like a cyst behind it that makes it feel bigger.
4. Fibroid uterus – a pregnant patient with fibroids will present with a larger than expected size.
5. Molar pregnancy – molar pregnancies often present with an enlarged uterus and no heartbeat. An ultrasound will show no fetus and a hazy irregular pattern of material in the uterine cavity which is sometimes called a snowstorm pattern.
6. Multiples – twins and triplets result in a uterus that is large than expected.

Q2. Are you concerned about the color of the cervix? Why or why not?

A bluish discoloration of cervix is a possible sign of pregnancy (but not diagnostic). The blue color is due to an increase in venous blood flow and is sometimes referred to as Chadwick sign.

Q3. What would you do next?

Ultrasound. Ectopic pregnancy is a medical emergency and important to rule out. Visualizing a pregnancy in the uterus which will effectively rule out an ectopic, molar pregnancy and a complete miscarriage. If a fetal heart is seen, then the diagnoses of missed and/or incomplete miscarriage are also ruled out. It will also be helpful for dating the pregnancy as early ultrasounds are the most accurate for determining EDD.

Ultrasound report on Jan 3: An ultrasound is obtained which shows single fetus with an estimated gestational age of 8 weeks. There is a 4 cm posterior fibroid and a 6 cm clear simple cyst on the left ovary.

Q4. Name three ways to determine an EDD.

1. Early pelvic exam (12 weeks or earlier)
2. Fetal heart by Doppler (first heard at 10 weeks)
3. Ultrasound
4. Quickening – the patient perception of fetal movement which occurs at 18 -20 weeks for primiparas and at 16 -18 weeks for multiparas
5. Date of conception
6. Last menstrual period

Quantitative HCG tests give a quantitative value unit however the number does not correlate with gestational age. The number is useful for evaluating patients for ectopic pregnancies as the number is expected to double every 48 hours in a normal pregnancy and does not double in an ectopic pregnancy.

Q5. What is her EDD? How did you decide this?

EDD is 8/14. Ultrasound is a more accurate way of determining gestation. Using an app – the US data is entered and EDD calculated. Please note apps can differ a bit and therefore answers in the range of 8/13 – 8/15 may be considered correct.

Q6. In what trimester is she?

To determine the trimester first start by using a pregnancy calculator to determine her estimated gestational age (EGA). Her EGA is 8 weeks, so she is in the first trimester.

Q7. What would you tell her about the ovarian cyst seen on the ultrasound? The ovarian cyst is probably a corpus luteum cyst and therefore physiological. Corpus luteum supply the pregnancy with progesterone until the placenta takes over around week 12. Since there is no pain, it may be followed with another ultrasound at 14 -16 weeks or so..

Q8. What patient education would you provide at this visit? (Hint: reread the initial visit description and think about her history.)

Any of the answers below are great**:**

1. Advise her not to empty or clean the litter box – this prevents exposure to toxoplasmosis
2. For the constipation, increasing dietary fiber or use of a fiber supplement such as Metamucil is helpful.
3. For breast tenderness, sports bras and ice can be helpful.
4. For morning nausea, eating dry crackers can help as can eating small frequent meals. Avoiding morning drinks which are acidic (coffee, orange juice, soft drinks) can also help. Anti-motion sickness bands can also be helpful as can ginger.
5. Wear gloves and mask if she needs to clean the cat litter box.
6. Avoid gardening or use same precautions as litter box if her cats are outside cats.
7. Prenatal exercise program – these are often available through the local hospital, fitness centers or physical therapy department.
8. Advise against smoking and recreational drug use.
9. Advise her to stop drinking alcohol during the pregnancy
10. Nutritional counseling – to provide for healthy weight gain in pregnancy
11. Wearing support hose while working may help prevent varicose veins.
12. Ask about exposure to chemicals like nail polish and hair dye given her occupation – she might want to consider limiting her exposure in first trimester.

Q9. What are medical orders you would place at this visit and why would you do them?

Any of these answers are good ones:

1. PN labs – all patients need baseline labs – CDC, rubella titer, zoster, syphilis, HIV, blood type & antibody screen, hepatitis B, hepatitis C
2. Screen for toxoplasmosis – she has cats and gardens and may already be immune
3. Start on prenatal vitamins – they provide iron and folic acid; folic acid has been shown to decrease risk of neural tube defects
4. Early screening for gestational diabetes – her weight puts her at increased risk
5. Complete physical examination including pap smear and STD testing. She had an abdominal and pelvic exam. A full exam provides a baseline
6. Ultrasound – to assess the ovarian cyst at 12-14 weeks
7. Genetic counseling referral – not specifically required for this patient however there is no genetic history and it is worthwhile having a visit to assess for risk and further testing.