Antepartum Hemorrhage

Topic- based Uworld Questions

Block 1, 2, 7, 8

A 39-year-old woman, gravida 3 para 2, comes to the office at 20 weeks gestation for prenatal care and follow-up of a prenatal ultrasound. The patient has had no pelvic pain, leakage of fluid, or vaginal bleeding. Fetal movement has been normal. Prior pregnancies were uncomplicated and delivered vaginally at term. This pregnancy was conceived via in vitro fertilization with normal preimplantation genetic testing. Blood pressure is 110/60 mm Hg and pulse is 78/min. BMI is 32 kg/m^2. Ultrasound performed earlier today showed a single fetus in the breech presentation, a placenta covering the internal cervical os, and a cervical length of 4.2 cm. The anatomical survey is normal, and estimated fetal weight is at the 50th percentile. Based on the ultrasound findings, which of the following is the best next step in the treatment of this patient?

A. Cerclage placement
B. Complete bedrest
C. Intramuscular hydroxyprogesterone
D. Routine obstetric care
E. Vaginal progesterone
F. Weekly Doppler ultrasound

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- A. Cerclage placement (4%)
- B. Complete bedrest (7%)
- C. Intramuscular hydroxyprogesterone (3%)
- ✓ D. Routine obstetric care (66%)
- E. Vaginal progesterone (4%)
- F. Weekly Doppler ultrasound (14%)

Omitted
Correct answer
D

66%
Answered correctly

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Time Spent

03/22/2020
Last Updated

Explanation

Placenta previa

Placenta previa	
Risk factors	• Prior placenta previa • Prior cesarean delivery • Multiple gestation
Clinical features	• Painless vaginal bleeding >20 weeks gestation
Diagnosis	• Transabdominal followed by transvaginal sonogram
Management	• No intercourse • No digital cervical examination • Inpatient admission for bleeding episodes

Placenta previa is usually diagnosed during routine prenatal ultrasound at 18-20 weeks gestation with **placental tissue covering the cervix**. Most patients are asymptomatic but have a significant risk of severe **painless antepartum hemorrhage** due to partial placental detachment with cervical manipulation or dilation. **Pelvic rest** and abstinence from intercourse (due to potential cervical contact) are recommended, and clinicians should refrain from digital cervical examination.

The **majority** (~90%) of cases **resolve spontaneously** due to lower uterine segment lengthening and/or placental growth toward the fundus; therefore, initial management is with **routine obstetric care**. Repeat ultrasound is performed in the third trimester (ie, ≥28 weeks gestation), and patients with previa resolution can continue routine care without pelvic rest restrictions. Asymptomatic patients (ie, no vaginal bleeding) with persistent previa undergo scheduled cesarean delivery at 36-37 weeks gestation.

(Choice A) Cerclage treats cervical insufficiency by reinforcing the cervix with suture or synthetic tape; candidates include patients with a history of second-trimester deliveries or a short (≤2.5 cm) cervix. It is not indicated in this patient with 2 prior term deliveries and a normal cervix, and it has no role in the management of placenta previa.

(Choice B) Complete bedrest is associated with an increased risk of venous thromboembolism and loss of bone density. In addition, it has not

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(Choice B) Complete bedrest is associated with an increased risk of venous thromboembolism and loss of bone density. In addition, it has not been proven to be beneficial in obstetric management and therefore is not recommended.

(Choices C and E) Progesterone supplementation reduces the risk of preterm birth in patients with prior preterm birth (by intramuscular hydroxyprogesterone) or those with an incidental short cervix (with vaginal progesterone). This patient's prior pregnancies were delivered at term, and her cervix is normal (>2.5 cm).

(Choice F) Doppler ultrasound of the umbilical artery is performed during surveillance of fetal growth restriction (estimated fetal weight <10th percentile); this patient's fetal growth is normal (50th percentile).

Educational objective:
Placenta previa is diagnosed on prenatal ultrasound, when the placental tissue is seen covering the cervix. Cervical manipulation may cause severe painless antepartum hemorrhage; therefore, pelvic rest (ie, no digital cervical examination or intercourse) is recommended. Asymptomatic patients (ie, no vaginal bleeding) undergo routine obstetric care and third-trimester ultrasound to evaluate for previa resolution.

References

- Abnormal placentation: placenta previa, vasa previa, and placenta accreta.

Explanation

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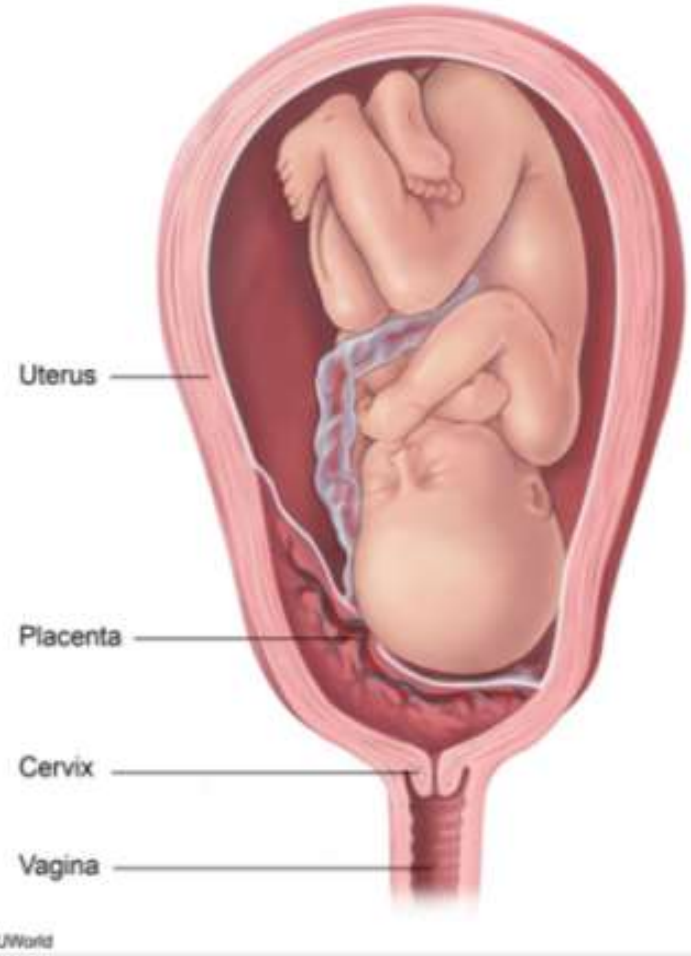
Placenta previa



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A 34-year-old woman, gravida 4 para 2 aborta 1, comes to the emergency department at 24 weeks gestation with vaginal bleeding that started after intercourse. The patient woke up in a pool of bright red blood and continues to soak through a pad every hour. She has not had routine prenatal care during this pregnancy but had a sonogram at 8 weeks gestation that showed a singleton intrauterine pregnancy. The patient has had 2 cesarean deliveries at term and a cervical conization earlier this year. She smokes a pack of cigarettes daily but does not use alcohol or illicit drugs. Blood pressure is 124/78 mm Hg and pulse is 92/min. Fetal monitoring shows a baseline of 140/min, accelerations, absent decelerations, and moderate variability. Irregular contractions are seen on tocodynamometry. Abdominal examination reveals a gravid, nontender uterus. On speculum examination, there are large clots in the vaginal vault, a closed cervix, and active bleeding from the os. Which of the following is the most likely diagnosis in this patient?

- A. Cervical insufficiency
- B. Complete hydatidiform mole
- C. Inevitable abortion
- D. Placenta previa
- E. Placental abruption
- F. Preterm labor

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- A. Cervical insufficiency (11%)
- B. Complete hydatidiform mole (0%)
- C. Inevitable abortion (8%)
- ✓ D. Placenta previa (65%)
- E. Placental abruption (12%)
- F. Preterm labor (2%)

Omitted
Correct answer
D

65%
Answered correctly

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Time Spent

04/26/2020
Last Updated

Explanation

Placenta previa	
Risk factors	• Prior placenta previa • Prior cesarean delivery • Multiple gestation
Clinical features	• Painless vaginal bleeding >20 weeks gestation
Diagnosis	• Transabdominal followed by transvaginal sonogram
Management	• No intercourse • No digital cervical examination • Inpatient admission for bleeding episodes

This patient's vaginal bleeding after 20 weeks gestation is due to **placenta previa**, a condition in which the **placenta covers the cervix**. This patient's risk factors for placenta previa include prior cesarean delivery, multiparity, and smoking; additional risk factors include prior placenta previa and multiple gestation. Placenta previa has the potential for massive antepartum hemorrhage because cervical manipulation (even minimal manipulation from intercourse) causes partial placental detachment and **painless vaginal bleeding** (eg, nontender uterus, painless irregular contractions) from the intervillous space. This bleeding is primarily of maternal origin; therefore, many patients have **reassuring fetal monitoring** initially (eg, accelerations, no decelerations).

Treatment depends on maternal hemodynamic stability and fetal status. Stable patients are managed expectantly, as most previas resolve by the third trimester. Patients with persistent previa undergo cesarean delivery at 36-37 weeks gestation (prior to the onset of labor).

(Choice A) Cervical insufficiency causes second trimester pregnancy loss due to intrinsic cervical instability or from a reduced cervical length (eg, prior cervical conization). Most patients have an incidental shortened or dilated cervix on ultrasound. There is typically no vaginal bleeding. Symptomatic patients typically have pelvic pressure and painless cervical dilation; this patient's cervix is closed.

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(Choice B) Complete hydatidiform mole usually causes first trimester vaginal bleeding. This diagnosis is unlikely because complete hydatidiform moles have a snowstorm appearance due to hydropic villi and an absent fetus on ultrasound.

(Choice C) Inevitable abortion presents at <20 weeks gestation with vaginal bleeding, pelvic pain, and a dilated cervix.

(Choice E) Placental abruption, the separation of the placenta from the uterus prior to fetal delivery, causes vaginal bleeding and uterine contractions. Abruptio placentae is more common in smokers (as in this patient), but patients typically have constant abdominal pain (ie, tender uterus) and fetal decelerations.

(Choice F) Preterm labor is cervical dilation ≥3 cm or effacement (eg, length <2 cm) with regular painful uterine contractions at <37 weeks gestation. Light bleeding due to cervical vascularity may be seen; however, frank hemorrhage (as in this patient) is not consistent with labor. In addition, this patient's contractions are irregular and her cervix is closed.

Educational objective:
Placenta previa occurs when the placenta covers the cervix and presents with painless vaginal bleeding after 20 weeks gestation. Blood loss is primarily maternal; therefore, initial fetal monitoring is typically reassuring.

- Multiple gestation

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Placenta previa

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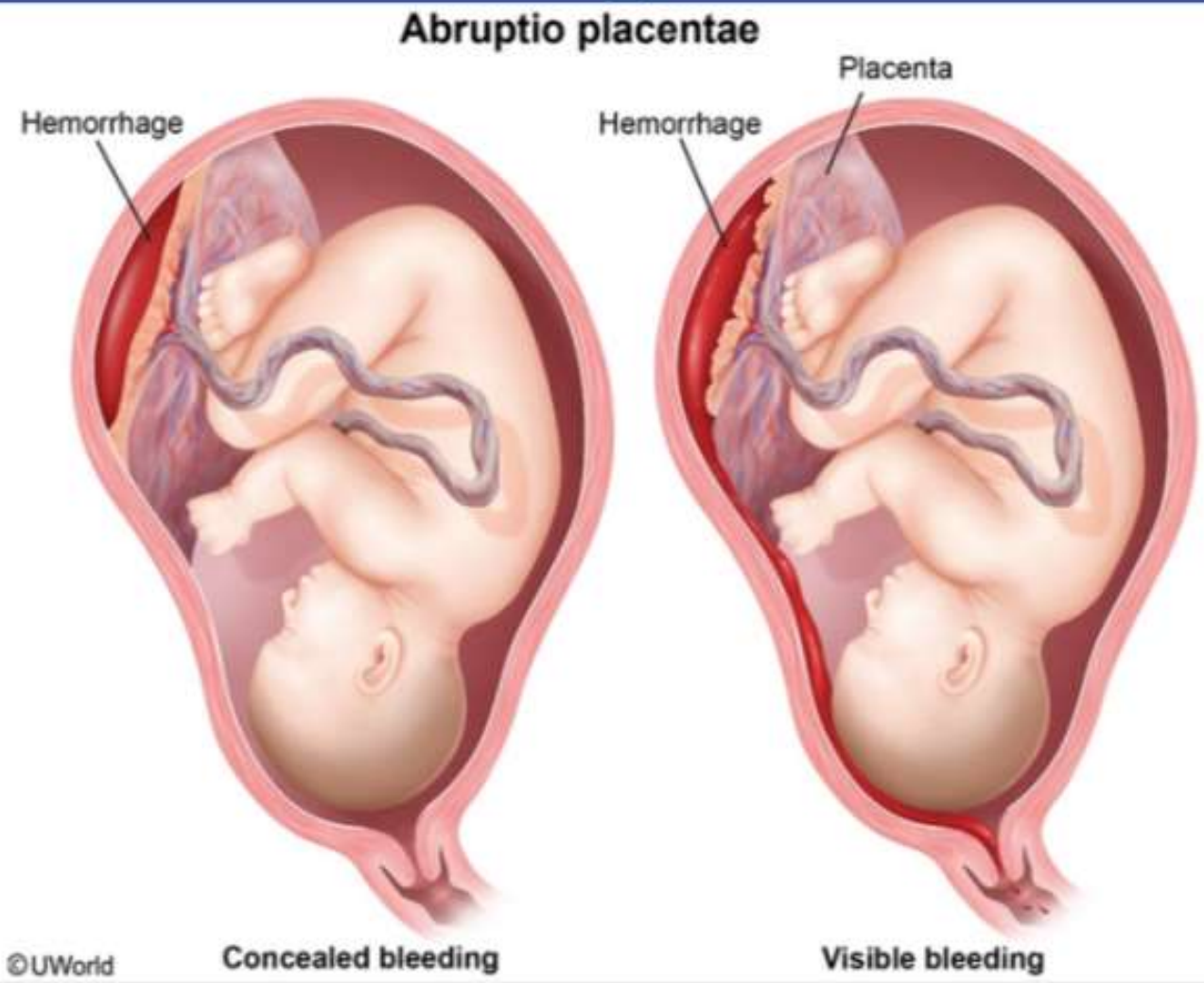

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A 29-year-old woman, gravida 3 para 2, comes to the emergency department due to sudden-onset, heavy vaginal bleeding that has soaked through her clothes. The patient has had inconsistent prenatal care and says she is "about 8 months" pregnant. She has had some nonpainful contractions. Four years ago, she had a low transverse cesarean delivery. The patient smokes a pack of cigarettes a day and takes no medications. Temperature is 37 C (98.7 F), blood pressure is 96/70 mm Hg, pulse is 118/min, and respirations are 16/min. Fetal heart monitoring shows a baseline of 150/min, moderate variability, accelerations, and no decelerations. Tocodynamometry shows irregular contractions every 10-15 minutes. Which of the following is the most likely diagnosis in this patient?

A. Placenta previa
B. Placental abruption
C. Preterm labor
D. Uterine rupture
E. Vasa previa

Submit

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- ✓ A. Placenta previa (53%)
- B. Placental abruption (26%)
- C. Preterm labor (4%)
- D. Uterine rupture (7%)
- E. Vasa previa (7%)

Omitted
Correct answer
A

53%
Answered correctly

01 sec
Time Spent

03/23/2020
Last Updated

Explanation

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Risk factors	• Prior placenta previa • Prior cesarean delivery • Multiple gestation
Clinical features	• Painless vaginal bleeding >20 weeks gestation
Diagnosis	• Transabdominal followed by transvaginal sonogram
Management	• No intercourse • No digital cervical examination • Inpatient admission for bleeding episodes

This patient most likely has **placenta previa**, which occurs when the placenta **covers the cervix**. Risk factors include multiparity, smoking, and prior cesarean delivery. Placenta previa is commonly diagnosed in asymptomatic patients during a routine 2nd-trimester ultrasound. In patients diagnosed with placenta previa, digital cervical examination and sexual intercourse are contraindicated, as they can trigger vaginal bleeding. However, bleeding may also occur spontaneously (as in this patient).

Patients with symptomatic placenta previa have **painless vaginal bleeding** after **20 weeks gestation**, ranging in severity from spotting to massive hemorrhage. Bleeding occurs as the placenta is sheared off the cervix, creating a partial detachment due to uterine irritability (eg, irregular, **nonpainful contractions**) which causes physiologic cervical changes (eg, effacement, dilation). Early in the disease process, bleeding is primarily maternal in origin; therefore, a **reactive** (ie, normal) **fetal heart rate tracing** is usually seen. However, continued maternal blood loss can eventually lead to fetal compromise, with deterioration of the fetal heart rate tracing. Management is dependent on maternal hemodynamic stability and fetal status.

(Choice B) Placental abruption is vaginal bleeding from premature separation of the placenta from the uterine wall and typically causes constant abdominal pain, uterine tenderness, and fetal heart rate tracing abnormalities (eg, decelerations), which are not seen in this patient.

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(Choice C) Preterm labor presents with regular, painful contractions associated with cervical dilation and bloody show due to tearing of small cervical veins. Frank hemorrhage is not consistent with labor.

(Choice D) Uterine rupture classically presents during labor in patients with a prior cesarean delivery with sudden onset of vaginal bleeding. However, patients also have intense abdominal pain, palpable fetal parts through the abdominal wall, and fetal heart rate abnormalities (eg, decelerations, bradycardia).

(Choice E) Vasa previa is characterized by fetal blood vessels that overlie the internal cervical os, making them vulnerable to injury with membrane rupture or labor. Although patients with vasa previa have painless vaginal bleeding (as in this patient), there is typically rapid deterioration of the fetal heart tracing as the hemorrhage is primarily of fetal origin.

Educational objective:
Placenta previa occurs when the placenta covers the cervix and typically presents with painless vaginal bleeding after 20 weeks gestation. Blood loss is primarily maternal in origin; therefore, fetal heart rate tracings are typically reactive early in the disease process.

References