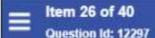
Postpartum Care & Puerperum

Topic-based Uworld Questions

Block 1, 2, 7, 8























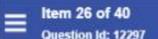


A 31-year-old woman, gravida 1 para 1, is seen in the hospital on postoperative day 2 due to lower abdominal pain, chills, and pain with sitting. The patient initially planned to have a home delivery but came to the hospital when she had no contractions a day after spontaneous rupture of membranes. After a 26-hour induction of labor, she had a primary cesarean delivery for arrest of descent. The patient has asthma that is controlled with a rescue inhaler. She does not use tobacco, alcohol, or illicit drugs. Temperature is 38.3 C (101 F), blood pressure is 100/60 mm Hg, and pulse is 96/min. Cardiopulmonary examination is normal. The breasts are full but have no erythema or fluctuant masses. The uterine fundus is firm and tender to palpation. There is scant serosanguineous drainage from the lower aspect of the incision. Pelvic examination shows a small amount of blood on the perineal pad with mildly foul-smelling discharge. Bilateral lower extremities are symmetric with minimal pedal edema. Which of the following is the best regimen for treating this patient's condition?

(A.	Ceftriaxone
○ B.	Ceftriaxone plus azithromycin
O C.	Clindamycin plus gentamicin
O D.	Dicloxacillin
○ E.	Penicillin
○ F.	Vancomycin

Submit

















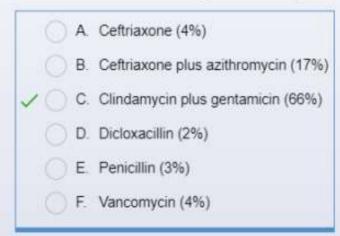






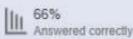


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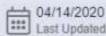


Correct answer C





03 secs Time Spent



Explanation





Postpartum endometritis				
Risk factors	Cesarean delivery Chorioamnionitis Group B Streptococcus colonization Prolonged rupture of membranes Operative vaginal delivery			
Clinical features	Fever >24 hr postpartum Uterine fundal tenderness Purulent lochia			
Etiology	Polymicrobial infection			
Treatment	Clindamycin & gentamicin			

Postpartum endometritis, an infection of the uterine decidua, is the most common etiology of puerperal fever. Postpartum endometritis typically presents with fever >24 hours postpartum, purulent lochia, and uterine tenderness. Risk factors include prolonged rupture of membranes, operative vaginal delivery, prolonged labor, and cesarean delivery.

Postpartum endometritis is the result of the inoculation of the uterine cavity by vaginal flora during labor or delivery and is a **polymicrobial infection**. Treatment of this polymicrobial infection requires broad-spectrum antibiotics; the most appropriate therapy is **clindamycin plus gentamicin**. Treatment should be continued until the patient is afebrile for >24 hours. Neither blood nor endometrial cultures are required for diagnosis, but further evaluation is indicated if there is no clinical improvement after 48 hours of antibiotic therapy.

(Choice A) Ceftriaxone is the treatment of choice for pyelonephritis in pregnancy. Ceftriaxone is a third-generation cephalosporin that covers the most common cause of pyelonephritis, Escherichia coli.

(Choice B) Ceftriaxone plus azithromycin is a dual therapy regimen that covers the most common causes of acute cervicitis, Neisseria

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Ulindamycin & gentamicin

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(Choice B) Ceftriaxone plus azithromycin is a dual therapy regimen that covers the most common causes of acute cervicitis, Neisseria gonorrhoeae and Chlamydia trachomatis.

(Choice D) Dicloxacillin is used in the treatment of lactational mastitis. It is a narrow-spectrum penicillin that covers the 2 most frequent pathogens, methicillin-sensitive Staphylococcus aureus and Group A Streptococcus.

(Choice E) Penicillin, a beta-lactam, is the antibiotic of choice for group B Streptococcus prophylaxis and treatment of syphilis. It is not used for postpartum endometritis as it has narrow coverage and many bacteria are penicillin resistant.

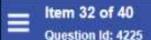
(Choice F) Vancomycin is used for the treatment of breast abscesses due to its coverage against methicillin-resistant Staphylococcus aureus.

Educational objective:

Postpartum endometritis is a polymicrobial infection characterized by fever >24 hours postpartum, purulent lochia, and uterine tenderness. The antibiotic regimen is clindamycin plus gentamicin due to its broad-spectrum coverage.

References

· Antibiotic regimens for postpartum endometritis.



















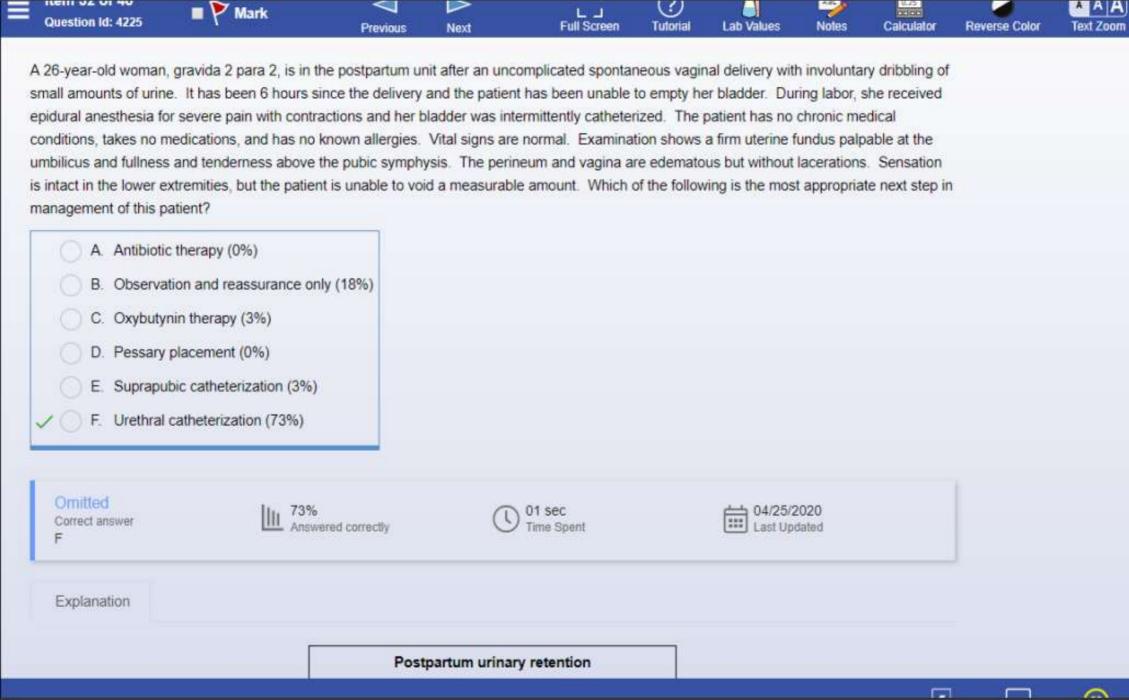




A 26-year-old woman, gravida 2 para 2, is in the postpartum unit after an uncomplicated spontaneous vaginal delivery with involuntary dribbling of small amounts of urine. It has been 6 hours since the delivery and the patient has been unable to empty her bladder. During labor, she received epidural anesthesia for severe pain with contractions and her bladder was intermittently catheterized. The patient has no chronic medical conditions, takes no medications, and has no known allergies. Vital signs are normal. Examination shows a firm uterine fundus palpable at the umbilicus and fullness and tenderness above the pubic symphysis. The perineum and vagina are edematous but without lacerations. Sensation is intact in the lower extremities, but the patient is unable to void a measurable amount. Which of the following is the most appropriate next step in management of this patient?

A Antibiot	ic therapy
B. Observa	ation and reassurance only
C. Oxybuty	nin therapy
D. Pessary	placement
E. Suprapi	ubic catheterization
F. Urethra	catheterization

Submit



Postpartum urinary retention

Primiparity
Regional neuraxial anesthesia
Operative vaginal delivery
Perineal injury
Cesarean delivery
Small-volume voids or inability to void
Incomplete bladder emptying
Dribbling of urine

Management
Self-limited condition
Intermittent catheterization

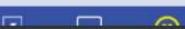
Explanation

This patient has **postpartum urinary retention**, which is the **inability to void ≥6 hours after vaginal delivery** (or ≥6 hours after catheter removal following cesarean delivery). Risk factors include primiparity, regional neuraxial anesthesia (eg, epidural anesthesia), and pudendal nerve injury from prolonged labor (perineal stretching and swelling). The combination results in an inability to sense the need to void, loss of the micturition reflex, bladder atony (eg, palpably overdistended bladder with suprapubic fullness and tenderness), and urinary retention. **Overflow incontinence** (eg, involuntary dribbling of urine) can occur due to bladder pressure rising above urethral pressure.

Urethral catheterization is required for both diagnosis and treatment, particularly in patients who are unable to void (Choice B). A postvoid residual volume of ≥150 mL is consistent with urinary retention. Urethral catheterization decompresses the bladder, preventing upper urinary tract damage from urine reflux or increased pressure. Symptoms are self-limited, and most patients regain bladder function after catheterization.

(Choice A) Antibiotics are administered if the patient has clinical features of a urinary tract infection (UTI), including suprapubic tenderness (as in this patient). However, patients with a UTI also typically have fever and urinary frequency, but not urinary retention.

(Choice C) Oxybutynin, an anticholinergic, inhibits smooth muscle contractions, promoting bladder relaxation in the treatment of overactive



Intermittent catheterization

This patient has postpartum urinary retention, which is the inability to void ≥6 hours after vaginal delivery (or ≥6 hours after catheter removal following cesarean delivery). Risk factors include primiparity, regional neuraxial anesthesia (eg, epidural anesthesia), and pudendal nerve injury from prolonged labor (perineal stretching and swelling). The combination results in an inability to sense the need to void, loss of the micturition reflex, bladder atony (eg, palpably overdistended bladder with suprapubic fullness and tenderness), and urinary retention. Overflow incontinence (eg, involuntary dribbling of urine) can occur due to bladder pressure rising above urethral pressure.

Urethral catheterization is required for both diagnosis and treatment, particularly in patients who are unable to void (Choice B). A postvoid residual volume of ≥150 mL is consistent with urinary retention. Urethral catheterization decompresses the bladder, preventing upper urinary tract damage from urine reflux or increased pressure. Symptoms are self-limited, and most patients regain bladder function after catheterization.

(Choice A) Antibiotics are administered if the patient has clinical features of a urinary tract infection (UTI), including suprapubic tenderness (as in this patient). However, patients with a UTI also typically have fever and urinary frequency, but not urinary retention.

(Choice C) Oxybutynin, an anticholinergic, inhibits smooth muscle contractions, promoting bladder relaxation in the treatment of overactive bladder (ie, urgency due to detrusor spasm). This therapy would worsen urinary retention in this patient.

(Choice D) A pessary is used to manage stress incontinence and pelvic organ prolapse by stabilizing the pelvic floor. Although this patient may have some pelvic floor laxity from her recent delivery, her incontinence is due to overflow from pudendal nerve injury and bladder atony, not urethral hypermobility.

(Choice E) Suprapubic catheter placement is a more invasive procedure and is therefore typically performed only when urethral catheterization is contraindicated (eg, urethral injury or stricture). This patient had recent urethral catheterization (suggesting no stricture) and has no perineal or vaginal lacerations (suggesting no urethral injury).

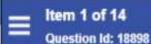
Educational objective:

Patients with postpartum urinary retention, the inability to void ≥6 hours after vaginal delivery, may have dribbling of urine from overflow incontinence. Urethral catheterization is indicated for diagnosis and treatment.

References

Prolonged second stage of labour, maternal infectious disease, urinary retention and other complications in the early postpartum period.

























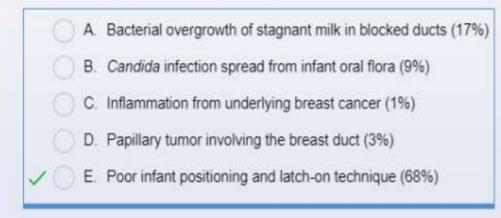
A 39-year-old woman, gravida 1 para 1, comes to the office due to breast pain. She had an uncomplicated vaginal delivery a week ago and is breastfeeding her infant. Four days ago, the patient began to have bilateral nipple soreness with breastfeeding. However, for the past few days, the pain has worsened, is present between feeds, and has prevented breastfeeding. She has also developed bloody nipple discharge. The patient's pregnancy was complicated by gestational diabetes mellitus, but otherwise, she has no chronic medical conditions. Temperature is 37.5 C (99.5 F). Bilateral nipples and areolae have open, bloody, linear abrasions. The breasts are diffusely engorged and mildly tender to palpation, but there are no palpable masses or lymphadenopathy. The remainder of the examination is unremarkable. Which of the following is the most likely underlying cause of this patient's presentation?

0	A.	Bacterial overgrowth of stagnant milk in blocked ducts
0	В.	Candida infection spread from infant oral flora
0	C.	Inflammation from underlying breast cancer
0	D.	Papillary tumor involving the breast duct
0	E.	Poor infant positioning and latch-on technique

Submit



A 39-year-old woman, gravida 1 para 1, comes to the office due to breast pain. She had an uncomplicated vaginal delivery a week ago and is breastfeeding her infant. Four days ago, the patient began to have bilateral nipple soreness with breastfeeding. However, for the past few days, the pain has worsened, is present between feeds, and has prevented breastfeeding. She has also developed bloody nipple discharge. The patient's pregnancy was complicated by gestational diabetes mellitus, but otherwise, she has no chronic medical conditions. Temperature is 37.5 C (99.5 F). Bilateral nipples and areolae have open, bloody, linear abrasions. The breasts are diffusely engorged and mildly tender to palpation, but there are no palpable masses or lymphadenopathy. The remainder of the examination is unremarkable. Which of the following is the most likely underlying cause of this patient's presentation?





Correct answer

Omitted







Explanation

Proper breastfeeding technique promotes maternal comfort, ensures adequate infant nutritional intake, and facilitates long-term breastfeeding



Most breastfeeding patients experience nipple pain in the immediate postpartum period as they become accustomed to nursing 8-12 times/day or more, but this typically resolves after a few weeks. **Nipple pain** that worsens and persists between feedings is commonly due to nipple injury caused by **poor infant positioning** and **improper latch-on technique**. On examination, patients can have open, linear areolar abrasions that cause a **bloody-appearing nipple discharge**; bruising, cracking, and blistering may also be present. **Breast engorgement**, as seen in this patient with bilateral, diffusely tender, and engorged breasts, can also develop because nipple pain limits breastfeeding.

Initial management is with the observation of breastfeeding and patient education. Nipple injury is a significant risk factor for multiple adverse outcomes (eg, plugged milk ducts, mastitis, breast abscess), which often lead to premature cessation of breastfeeding.

(Choice A) Lactational mastitis is caused by bacterial overgrowth of stagnant milk in blocked ducts; it is a common cause of breast pain in breastfeeding patients. In contrast to this patient, those with lactational mastitis typically have fever and localized warmth or erythema over a single breast.

(Choice B) Candida mastitis can be caused by spread from infant oral flora. Patients typically have nipple pain that radiates across the breast with latching; however, the pain is described as sharp and shooting and is usually out of proportion to the examination. In addition, it is typically unilateral, and the affected breast often has flaky, scaling skin over the nipple.

(Choice C) Inflammatory breast cancer can cause unilateral, not bilateral, breast pain and tenderness. Patients typically have a breast mass with associated skin thickening and erythema (peau d'orange appearance) with axillary lymphadenopathy, which is not seen in this patient.

(Choice D) An intraductal papilloma, a papillary tumor involving the breast duct, typically presents with bloody nipple discharge but no associated breast pain.

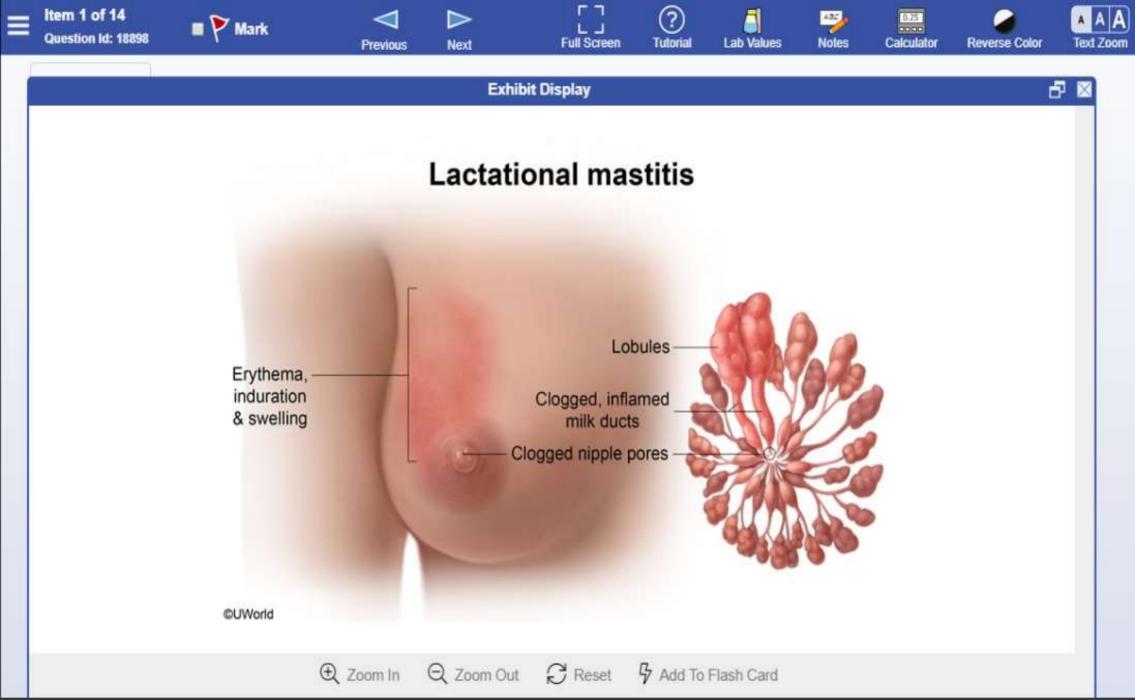
Educational objective:

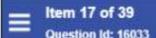
Persistent nipple pain with breastfeeding is typically due to nipple injury, which can present with bilateral nipple abrasions and bloody nipple discharge. The most common underlying causes are poor infant positioning and improper latch-on technique.

References

Nipple pain in breastfeeding mothers: incidence, causes and treatments.



























A 49-year-old woman comes to the emergency department for evaluation of back pain. The patient underwent a total abdominal hysterectomy and bilateral salpingo-oophorectomy for ovarian cancer 1 week ago. She had an uncomplicated postoperative course, with her Foley catheter removed on postoperative day 2. She was discharged home on postoperative day 4. The patient noted some right-sided back pain after surgery that improved with pain medications. However, the pain has become progressively more severe and is no longer responding to pain medications. The pain does not radiate, and now she has associated nausea and vomiting. Temperature is 37.2 C (99 F), blood pressure is 128/72 mm Hg, and pulse is 92/min. BMI is 38 kg/m². The abdominal incision is closed and has no erythema, drainage, or fluctuance. There is mild right costovertebral angle tenderness; the left side is nontender. Serum creatinine is 0.8 mg/dL. Catheterized urinalysis is normal. Which of the following is the most likely cause of this patient's pain?

A. Acute pyelonephritis

B. Hydronephrosis

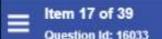
C. Nephrolithiasis

D. Renal infarction

E. Renal vein thrombosis

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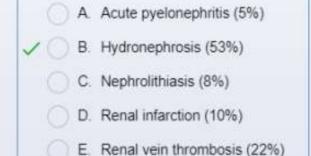






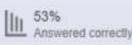


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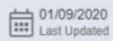




Correct answer B







Explanation

This patient's postoperative, unilateral back pain; nausea with vomiting; and costovertebral angle tenderness are most likely due to





















This patient's **postoperative**, **unilateral back pain**; nausea with vomiting; and costovertebral angle tenderness are most likely due to **hydronephrosis from ureteral injury**. Gynecologic surgery, particularly hysterectomy, has the highest risk for iatrogenic ureteral injury due to the proximity of the ureters to the pelvic organs, particularly the uterine artery. Risk of ureteral injury increases in patients with obesity, distorted pelvic architecture from malignancy (as in this patient), or prior pelvic surgery (eg, cesarean delivery).

Ureteral injury most commonly occurs due to accidental suturing of the ureter during uterine artery ligation or vaginal cuff closure, which can cause partial or **complete ureteral obstruction**. Patients with ureteral obstruction develop hydronephrosis; however, symptoms can be masked initially by postoperative pain medications. With continued obstruction, patients have **nonradiating back pain** and **costovertebral angle tenderness**. Because only 1 ureter is affected, patients typically have **normal renal function** (eg, normal creatinine and urinalysis); however, irreversible renal damage can occur if the obstruction is untreated. Diagnosis can be made by renal ultrasound. Treatment is surgical correction of the obstruction (eg, suture removal).

(Choice A) Acute pyelonephritis may present with costovertebral angle tenderness, and it is a complication of recent Foley catheter use. However, patients with pyelonephritis typically have fever, chills, and an abnormal urinalysis (eg, bacteria, red and white blood cells).

(Choice C) Nephrolithiasis can present with unilateral back pain and nausea/vomiting; however, patients typically have pain that radiates to the groin and microscopic hematuria on urinalysis, making this diagnosis less likely.

(Choices D and E) Renal vein thrombosis and subsequent unilateral renal infarction can occur in patients in a hypercoagulable state (eg, malignancy). In acute cases, patients can develop back pain and costovertebral angle tenderness; however, these patients typically have hematuria. Unilateral ureteral injury is the more likely diagnosis in this patient given her progressively worsening back pain beginning immediately after surgery.

Educational objective:

Ureteral injury presents postoperatively with ureteral obstruction and subsequent hydronephrosis (eg, nonradiating focal back pain, unilateral costovertebral angle tenderness). Without prompt diagnosis and treatment, irreversible renal damage can occur.

References

· Prevention of ureteral injuries in gynecologic surgery.























A 26-year-old woman, gravida 1 para 1, comes to the office for a 6-week postpartum checkup following an induction of labor and vaginal delivery at 38 weeks gestation for preeclampsia with severe features. Her pregnancy was otherwise uncomplicated, and the patient has no chronic medical conditions. She is currently breastfeeding and supplementing with pumped breast milk. The patient has not resumed her menses and is taking a progestin-only pill for contraception. The patient says, "The baby is healthy, which is great, but I haven't been sleeping much and have been very tired. My mom is coming to stay with us, so I'm hoping to get some rest soon." Temperature is 36.7 C (98 F), blood pressure is 130/80 mm Hg, and pulse is 68/min. BMI is 24 kg/m². Breast and pelvic examinations are normal. Which of the following should be performed at this visit?

A. 24-hour urine protein collection

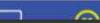
B. Edinburgh postnatal depression scale

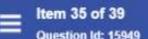
C. Glucose tolerance test

D. Thyroid function tests

E. Transvaginal ultrasound

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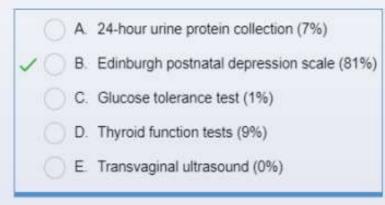


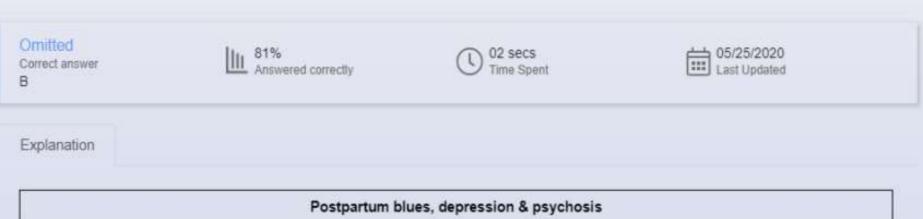






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Postpartum blues, depression & psychosis					
	Postpartum blues	Postpartum depression	Postpartum psychosis		
Prevalence	• 40%-80%	• 8%-15%	• 0.1%-0.2%		
Onset	2-3 days (resolves within 14 days)	Typically within 4-6 weeks (can be up to 1 year)	Days to weeks		
Symptoms	Mild depression, tearfulness, irritability	 ≥2 weeks of moderate to severe depression, sleep, or appetite disturbance; low energy; psychomotor changes; guilt; concentration difficulty; and suicidal ideation 	Delusions, hallucinations, though disorganization, bizarre behavior		

Postpartum depression (also known as depression with postpartum onset) is common, affecting up to 15% of mothers, and typically develops within 4-6 weeks after delivery. It poses a significant risk to both maternal and infant well-being because women with postpartum depression can have difficulty with infant bonding and breastfeeding and are at risk for suicide and infanticide.

Patients sometimes do not recognize the symptoms of postpartum depression because they often overlap with a normal postpartum course, as evidenced by the fatigue and sleep disturbance experienced by this patient. In addition, women may **underreport symptoms** due to fear of stigmatization and preconceived maternal roles (eg., immediate bonding).

Because of the **high incidence** of postpartum depression and underreporting of symptoms, **all women require screening** (regardless of prior psychiatric history) with a standardized, validated tool such as the **Edinburgh Postnatal Depression Scale** (EPDS). The EPDS has a high sensitivity (90%); women with a positive screen for postpartum depression require further evaluation, treatment, and close follow-up.

(Choice A) A 24-hour urine protein collection is used to diagnose preeclampsia. Although this patient had preeclampsia with severe features during her pregnancy, most cases of preeclampsia resolve after delivery—as is likely in this patient with a normal postpartum blood pressure.























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(Choice A) A 24-hour urine protein collection is used to diagnose preeclampsia. Although this patient had preeclampsia with severe features during her pregnancy, most cases of preeclampsia resolve after delivery—as is likely in this patient with a normal postpartum blood pressure.

(Choice C) Postpartum glucose tolerance testing is performed in patients who had gestational diabetes mellitus to evaluate for overt type 2 diabetes mellitus postpartum.

(Choice D) If this patient's depression screening is positive, she may require evaluation for medical causes of depression, such as hypothyroidism (eg, thyroid function tests).

(Choice E) A transvaginal ultrasound can be performed postpartum if there is concern for retained placenta (eg, persistent vaginal bleeding, malodorous lochia) or a new pregnancy. Not resuming menses at 6 weeks postpartum is common in breastfeeding women; pregnancy is unlikely in this patient who has lactational amenorrhea and is also using contraception.

Educational objective:

Postpartum depression has a high incidence and is often underreported. Therefore, all women (regardless of prior psychiatric history) require screening for postpartum depression (eg. Edinburgh Postnatal Depression Scale).

References

The American College of Obstetricians and Gynecologists Committee Opinion no. 630. Screening for perinatal depression.