FULL-LENGTH PRACTICE TEST 15

Practice Test 15: Gynecology and Obstetrics

50 Questions — Recommended Time: 50 Minutes

1. A 28-year-old woman at 10 weeks gestation presents with severe nausea, vomiting, and vaginal bleeding. Physical examination reveals a uterus that is significantly larger than expected for gestational age. Quantitative beta-hCG is markedly elevated at 285,000 mIU/mL. Pelvic ultrasound reveals a "snowstorm" pattern with no identifiable fetal parts and bilateral theca lutein cysts. Which of the following is the most likely diagnosis?

A. Threatened abortion

B. Complete hydatidiform mole

C. Ectopic pregnancy

D. Twin gestation

2. A 32-year-old woman at 34 weeks gestation presents with sudden onset of painful vaginal bleeding, uterine tenderness, and a rigid "board-like" abdomen. Fetal heart tracing reveals recurrent late decelerations with decreased variability. She has a history of poorly controlled chronic hypertension and cocaine use. Which of the following is the most likely diagnosis?

A. Placenta previa

B. Vasa previa

C. Bloody show (normal labor)

D. Placental abruption

3. A 25-year-old woman at 32 weeks gestation presents with painless, bright red vaginal bleeding. She denies contractions or abdominal pain. Fetal heart tracing is reassuring with a category I pattern. She reports two prior cesarean deliveries. Transabdominal ultrasound reveals the placenta completely covering the internal cervical os. Which of the following is the most likely diagnosis?

A. Placenta previa

B. Placental abruption

C. Cervical insufficiency

D. Uterine rupture

4. A 30-year-old woman presents with 8 weeks of amenorrhea, left lower quadrant pain, and vaginal spotting. Quantitative beta-hCG is 2,500 mIU/mL. Transvaginal ultrasound reveals no intrauterine pregnancy. A complex adnexal mass with a hyperechoic ring ("ring of fire" on Doppler) is identified in the left adnexa. Cul-de-sac fluid is present. Which of the following is the most likely diagnosis?

A. Ovarian torsion

B. Corpus luteum cyst

C. Ectopic pregnancy

D. Ruptured ovarian cyst

5. A 22-year-old primigravida at 39 weeks gestation is in active labor. Cervical examination reveals 8 cm dilation, 100% effacement, and 0 station. Fetal heart monitoring shows repetitive variable decelerations with slow return to baseline. The most recent deceleration drops to 70 bpm lasting 90 seconds. Amnioinfusion has been attempted without improvement. Which of the following is the most appropriate next step?

A. Emergent cesarean delivery

B. Continue observation and allow labor to progress

C. Administer terbutaline for tocolysis

D. Apply vacuum extraction immediately

6. A 35-year-old woman presents with heavy, prolonged menstrual bleeding (menorrhagia), pelvic pressure, and urinary frequency. Bimanual examination reveals an enlarged, irregularly shaped, firm uterus approximately 14-week size. Hemoglobin is 9.5 g/dL. Pelvic ultrasound reveals multiple well-circumscribed, hypoechoic intramural masses within the myometrium. Which of the following is the most likely diagnosis?

A. Endometrial carcinoma

B. Uterine leiomyomas (fibroids)

C. Adenomyosis

D. Endometrial polyps

7. A 45-year-old woman presents with abnormal uterine bleeding, including intermenstrual spotting and heavy periods for the past 6 months. She has a BMI of 38, type 2 diabetes, and a history of chronic anovulation. Endometrial biopsy reveals complex atypical endometrial hyperplasia. Which of the following is the most appropriate definitive treatment?

A. Combined oral contraceptives

B. Observation with repeat biopsy in 12 months

C. Cyclic progestin therapy alone

D. Total hysterectomy

8. A 16-year-old girl presents with cyclic pelvic pain every month but has never had a menstrual period (primary amenorrhea). Physical examination reveals normal breast development (Tanner stage V), normal external genitalia, and a bulging, bluish membrane at the vaginal introitus. She has lower abdominal distension. Which of the following is the most likely diagnosis?

A. Müllerian agenesis (Mayer-Rokitansky-Küster-Hauser syndrome)

B. Turner syndrome

C. Imperforate hymen

D. Androgen insensitivity syndrome

9. A 26-year-old woman presents with pelvic pain, dysmenorrhea, dyspareunia (deep), and difficulty conceiving for 2 years. Physical examination reveals tenderness in the posterior cul-de-sac and a fixed, retroverted uterus with nodularity along the uterosacral ligaments. CA-125 is mildly elevated. Transvaginal ultrasound reveals a 4-centimeter homogeneous hypoechoic cyst with ground-glass echoes in the left ovary. Which of the following is the most likely diagnosis?

A. Endometriosis with endometrioma

B. Ovarian dermoid cyst (mature teratoma)

C. Ovarian cancer

D. Pelvic inflammatory disease

10. A 20-year-old woman presents with a 3-day history of lower abdominal pain, mucopurulent cervical discharge, cervical motion tenderness, and adnexal tenderness bilaterally. She has a temperature of 101.5°F. She is sexually active with multiple partners and uses no contraception. NAAT is positive for Chlamydia trachomatis. Which of the following is the most likely diagnosis?

A. Appendicitis

B. Pelvic inflammatory disease (PID)

C. Endometriosis

D. Ovarian torsion

11. A 55-year-old postmenopausal woman presents with vaginal bleeding for the past 3 weeks. She has not taken hormone replacement therapy. She has a BMI of 42, hypertension, and type 2 diabetes. Transvaginal ultrasound reveals an endometrial thickness of 12 mm (thickened). Endometrial biopsy reveals grade 1 endometrioid adenocarcinoma. Which of the following is the most significant risk factor for endometrial cancer in this patient?

A. Hypertension

B. Postmenopausal status

C. Type 2 diabetes

D. Obesity (chronic unopposed estrogen exposure from peripheral aromatization in adipose tissue)

12. A 28-year-old primigravida at 28 weeks gestation presents for routine prenatal visit. Her blood pressure is 152/98 mmHg on two readings taken 4 hours apart. She was normotensive at her 20-week visit. Urinalysis reveals 2+ proteinuria. Her platelet count is 165,000/μL, liver enzymes are normal, and creatinine is 0.8 mg/dL. She reports mild headache but no visual changes or epigastric pain. Which of the following is the most likely diagnosis?

A. Chronic hypertension

B. Gestational hypertension

C. Preeclampsia without severe features

D. Preeclampsia with severe features

13. A 30-year-old woman at 41 weeks gestation presents with rupture of membranes. She has had no contractions after 12 hours. Her group B Streptococcus (GBS) culture at 36 weeks was positive. Cervical examination reveals 1 cm dilation and 50% effacement. Fetal heart tracing is reassuring. Which of the following is the most appropriate management?

A. Expectant management and await spontaneous labor for an additional 12 hours without antibiotics

B. Begin oxytocin induction of labor and administer intrapartum GBS prophylaxis with IV penicillin G

C. Immediate cesarean delivery

D. Administer intramuscular betamethasone for fetal lung maturity

14. A 35-year-old woman at 29 weeks gestation presents with regular painful contractions every 5 minutes. Cervical examination reveals 3 cm dilation and 70% effacement with intact membranes. Fetal fibronectin is positive. Fetal heart tracing is reassuring. Which of the following is the most appropriate initial management?

A. Immediate cesarean delivery

B. Allow labor to progress without intervention

C. Administer tocolytics (to delay delivery for 48 hours), betamethasone (for fetal lung maturity), magnesium sulfate (for fetal neuroprotection), and GBS prophylaxis if indicated

D. Cerclage placement

15. A 24-year-old woman presents with a positive home pregnancy test and a last menstrual period 7 weeks ago. She reports mild left-sided pelvic pain but no vaginal bleeding. Quantitative beta-hCG is 1,200 mIU/mL. Transvaginal ultrasound reveals no intrauterine pregnancy and no adnexal mass. Which of the following is the most appropriate next step?

A. Repeat quantitative beta-hCG in 48 hours to assess doubling time

B. Immediate surgical intervention (laparoscopy)

C. Administer methotrexate now

D. Reassure the patient and schedule routine prenatal care

16. A 32-year-old woman at 38 weeks gestation presents in active labor. She is GBS positive. She reports a history of anaphylaxis to penicillin (throat swelling and difficulty breathing). GBS culture sensitivity shows the isolate is susceptible to clindamycin and erythromycin. Which of the following is the most appropriate antibiotic for GBS prophylaxis?

A. Oral amoxicillin

B. IV ampicillin

C. IV cefazolin

D. IV clindamycin

17. A 19-year-old woman presents with a 6-centimeter complex ovarian mass found on ultrasound performed for pelvic pain. The mass contains solid and cystic components with hyperechoic areas suggesting fat and calcifications. A "tip of the iceberg" sign is present due to shadowing from calcification. Tumor markers (CA-125, AFP, beta-hCG, LDH) are all within normal limits. Which of the following is the most likely diagnosis?

A. Ovarian epithelial carcinoma

B. Mature cystic teratoma (dermoid cyst)

C. Endometrioma

D. Mucinous cystadenoma

18. A 40-year-old woman presents with severe dysmenorrhea, menorrhagia, and a uniformly enlarged, globular, "boggy" uterus on bimanual examination. Pelvic ultrasound reveals a diffusely enlarged uterus with heterogeneous myometrial echotexture, myometrial cysts, and a poorly defined endometrial-myometrial junction. No discrete masses are identified. MRI confirms a thickened junctional zone greater than 12 mm. Which of the following is the most likely diagnosis?

A. Uterine leiomyomas

B. Endometrial carcinoma

C. Adenomyosis

D. Endometrial polyp

19. A 60-year-old woman presents with vulvar pruritus, burning, and a raised, white, irregular lesion on the left labium majus that has been present for 4 months. Physical examination reveals a 2-centimeter firm, ulcerated lesion with rolled borders. Biopsy reveals invasive squamous cell carcinoma. She has a history of vulvar lichen sclerosus. Which of the following is the most important risk factor for vulvar squamous cell carcinoma?

A. Chronic vulvar dermatosis (lichen sclerosus) and/or HPV infection

B. Oral contraceptive use

C. Multiparity

D. Early menarche

20. A 33-year-old woman at 26 weeks gestation presents with a blood glucose of 195 mg/dL on her 1-hour glucose challenge test (50-gram GCT). She subsequently undergoes a 3-hour oral glucose tolerance test (100-gram OGTT) with the following results: fasting 98 mg/dL, 1-hour 192 mg/dL, 2-hour 170 mg/dL, 3-hour 148 mg/dL. Which of the following is the most likely diagnosis?

A. Normal glucose tolerance

B. Impaired fasting glucose

C. Type 2 diabetes mellitus

D. Gestational diabetes mellitus (GDM)

21. A 30-year-old woman at 12 weeks gestation presents for her first prenatal visit. Routine laboratory studies reveal a positive RPR (rapid plasma reagin) with a titer of 1:32. Confirmatory FTA-ABS is positive. She is asymptomatic with no rash or genital lesions. She has no documented penicillin allergy. Which of the following is the most appropriate treatment?

A. Oral doxycycline for 14 days

B. Intramuscular benzathine penicillin G 2.4 million units single dose

C. Oral azithromycin single dose

D. Defer treatment until after delivery

22. A 27-year-old woman at 36 weeks gestation presents with generalized tonic-clonic seizure. Her blood pressure is 180/115 mmHg. She has 3+ proteinuria, bilateral lower extremity edema, and hyperreflexia. Her platelet count is 90,000/μL and AST is elevated at 250 U/L. Which of the following is the most appropriate immediate treatment for the seizure?

A. Intravenous magnesium sulfate

B. Intravenous diazepam

C. Intravenous phenytoin

D. Intravenous lorazepam

23. A 25-year-old woman presents with pelvic pain, fever (102°F), and a unilateral right adnexal mass. She was recently diagnosed with PID and treated with outpatient oral antibiotics 10 days ago but symptoms worsened. Transvaginal ultrasound reveals a 7-centimeter complex adnexal mass with thick septations and internal echoes, consistent with tubo-ovarian abscess (TOA). She is hemodynamically stable. Which of the following is the most appropriate initial management?

A. Outpatient oral antibiotics

B. Immediate surgical removal of the right tube and ovary

C. Observation alone

D. Hospitalization with IV broad-spectrum antibiotics (clindamycin plus gentamicin, or ampicillin-sulbactam) and close monitoring

24. A 34-year-old woman at 39 weeks gestation presents in active labor. Fetal heart rate monitoring reveals a baseline of 145 bpm with moderate variability, presence of accelerations, but repetitive late decelerations with each contraction. Which of the following is the most likely cause of late decelerations?

A. Head compression

B. Fetal sleep cycle

C. Uteroplacental insufficiency

D. Umbilical cord compression

25. A 22-year-old woman presents with a 4-centimeter painless, firm, well-circumscribed, rubbery, freely mobile breast mass. It has been present for 3 months and is non-tender. Ultrasound reveals a well-defined, solid, homogeneous, hypoechoic mass with smooth borders. Which of the following is the most likely diagnosis?

A. Breast carcinoma

B. Fibroadenoma

C. Phyllodes tumor

D. Fat necrosis

26. A 32-year-old woman at 37 weeks gestation presents with a sudden gush of fluid from the vagina. Sterile speculum examination reveals pooling of clear fluid in the posterior vaginal fornix. Nitrazine paper turns dark blue (pH 7.0-7.5). A fern pattern is observed on microscopy of the dried fluid. Which of the following confirmatory findings is most consistent with rupture of membranes?

A. Vaginal pH of 4.0-4.5

B. Absence of fern on microscopy

C. Negative nitrazine test

D. Positive nitrazine test, positive fern, and visible pooling of amniotic fluid

27. A 42-year-old woman with a history of irregular heavy menstrual bleeding, obesity, and chronic anovulation undergoes endometrial biopsy showing simple endometrial hyperplasia without atypia. She desires future fertility. Which of the following is the most appropriate initial management?

A. Cyclic or continuous progestin therapy (medroxyprogesterone acetate or levonorgestrel IUD) with follow-up biopsy in 3-6 months

B. Total hysterectomy with bilateral salpingo-oophorectomy

C. Combined chemotherapy

D. Observation without treatment

28. A 30-year-old woman at 16 weeks gestation presents with painless cervical dilation and bulging membranes. She reports a history of two prior second-trimester pregnancy losses at similar gestational ages. She denies contractions, bleeding, or infection. Her cervical length on prior ultrasound at 12 weeks was 2.2 cm (short). Which of the following is the most likely diagnosis?

A. Inevitable abortion

B. Cervical insufficiency (incompetent cervix)

C. Preterm labor

D. Placenta previa

29. A 28-year-old woman at 28 weeks gestation has a blood type of O-negative. Her husband is Rh-positive. Indirect Coombs test (antibody screen) is negative. Which of the following is the most appropriate management to prevent Rh alloimmunization?

A. No intervention needed since antibody screen is negative

B. Administer Rh immune globulin (RhoGAM) only at delivery

C. Administer anti-D immunoglobulin only if the newborn is Rh-positive

D. Administer Rh immune globulin (RhoGAM) at 28 weeks gestation and again within 72 hours of delivery if the newborn is Rh-positive

30. A 50-year-old woman presents with hot flashes, night sweats, vaginal dryness, and irregular menstrual periods over the past 10 months. Her last menstrual period was 6 months ago. FSH is 65 mIU/mL (elevated) and estradiol is 15 pg/mL (low). She has no history of breast cancer, cardiovascular disease, or venous thromboembolism. Which of the following is the most appropriate initial treatment for her vasomotor symptoms?

A. Selective serotonin reuptake inhibitor (SSRI) as first-line

B. Black cohosh as primary treatment

C. Systemic hormone replacement therapy (low-dose estrogen plus progestin for women with a uterus)

D. Testosterone supplementation

31. A 22-year-old woman presents with a 2-centimeter firm, painless, flesh-colored, exophytic, pedunculated mass on the labia majora. She is sexually active with multiple partners. She has not received the HPV vaccine. Application of acetic acid (vinegar) causes the lesion to turn white (acetowhite). Which of the following is the most likely diagnosis?

A. Condylomata acuminata (genital warts, HPV 6/11)

B. Condylomata lata (secondary syphilis)

C. Bartholin gland cyst

D. Vulvar carcinoma

32. A 29-year-old woman presents with a one-year history of inability to conceive. She reports irregular menstrual cycles (intervals of 45-90 days), hirsutism, acne, and a 30-pound weight gain. BMI is 34. Physical examination reveals acanthosis nigricans on the posterior neck. Laboratory studies reveal elevated free testosterone, elevated DHEA-S, LH-to-FSH ratio of 3:1, and fasting insulin is elevated. Transvaginal ultrasound reveals bilateral ovaries with 15 or more small peripheral follicles in each ovary ("string of pearls" appearance). Which of the following is the most likely diagnosis?

A. Congenital adrenal hyperplasia

B. Polycystic ovary syndrome (PCOS)

C. Hypothyroidism

D. Cushing syndrome

33. A 28-year-old primigravida at 39 weeks gestation is in active labor. Her membranes rupture spontaneously, and the nurse observes a loop of umbilical cord protruding from the vagina ahead of the presenting fetal head. Fetal heart rate drops to 60 bpm. Which of the following is the most appropriate immediate management?

A. Administer IV oxytocin to accelerate delivery

B. Attempt manual replacement of the cord into the uterus

C. Place the patient in Trendelenburg or knee-chest position, manually elevate the presenting part off the cord, and proceed with emergent cesarean delivery

D. Apply fundal pressure to expedite vaginal delivery

34. A 48-year-old woman presents with a 1-centimeter firm, non-tender, fixed mass in the upper outer quadrant of the right breast. The mass has irregular borders and does not change with the menstrual cycle. Mammography reveals an irregular, spiculated mass with microcalcifications. She has a first-degree relative (mother) diagnosed with breast cancer at age 42. Which of the following is the most appropriate next step?

A. Reassurance and follow-up mammography in 6 months

B. Warm compresses and evening primrose oil

C. Breast MRI as a substitute for tissue diagnosis

D. Core needle biopsy

35. A 30-year-old woman at 24 weeks gestation presents with painless vaginal bleeding. She denies contractions. She had a prior low transverse cesarean delivery. Transabdominal ultrasound reveals the placental edge within 2 cm of the internal cervical os but not covering it. Which of the following best describes this placental location?

A. Complete placenta previa

B. Low-lying placenta (marginal)

C. Placenta accreta

D. Normal placental location

36. A 32-year-old woman presents with sudden onset of severe right lower quadrant pain, nausea, and vomiting. She is at day 25 of a current IVF cycle with controlled ovarian hyperstimulation. Physical examination reveals a tender 8-centimeter right adnexal mass. Doppler ultrasound reveals absent arterial and venous flow to the right ovary. Which of the following is the most likely diagnosis?

A. Ovarian torsion

B. Ruptured ectopic pregnancy

C. Acute appendicitis

D. Ruptured ovarian cyst

37. A 65-year-old postmenopausal woman presents with a palpable pelvic mass, increasing abdominal girth, and early satiety. She has lost 10 pounds unintentionally. CT scan reveals bilateral complex ovarian masses with solid and cystic components, ascites, and omental thickening ("omental caking"). CA-125 is 650 U/mL. Which of the following is the most likely diagnosis?

A. Ovarian dermoid cyst

B. Endometriosis

C. Epithelial ovarian cancer (most likely serous carcinoma)

D. Benign ovarian cystadenoma

38. A 38-year-old woman at 30 weeks gestation presents with severe headache, visual disturbances (scotomata), epigastric pain, and blood pressure of 175/112 mmHg. Laboratory studies reveal platelet count 72,000/μL, AST 380 U/L, ALT 290 U/L, LDH 820 U/L, creatinine 1.6 mg/dL, and peripheral smear shows schistocytes. Urinalysis reveals 3+ proteinuria. Which of the following is the most likely diagnosis?

A. Gestational hypertension

B. Chronic hypertension with superimposed preeclampsia

C. Preeclampsia without severe features

D. Preeclampsia with severe features/HELLP syndrome

39. A 24-year-old woman presents with cyclic breast pain, tenderness, and bilateral diffuse breast nodularity that worsens before menses and improves after menstruation. Physical examination reveals bilaterally mobile, rope-like thickenings predominantly in the upper outer quadrants. No dominant mass or skin changes are identified. Ultrasound reveals scattered simple cysts. Which of the following is the most likely diagnosis?

A. Invasive ductal carcinoma

B. Fibrocystic breast changes

C. Fibroadenoma

D. Intraductal papilloma

40. A 25-year-old woman at 8 weeks gestation presents with vaginal bleeding, suprapubic cramping, and passage of tissue per vagina. Pelvic examination reveals an open cervical os with tissue present. Ultrasound reveals an empty uterus with an endometrial thickness of 5 mm. Quantitative beta-hCG is 200 mIU/mL and declining. Which of the following is the most likely diagnosis?

A. Threatened abortion

B. Missed abortion

C. Inevitable abortion

D. Complete abortion (if all products have been passed) or incomplete abortion (if tissue remains)

41. A 22-year-old sexually active woman presents for contraception counseling. She has no medical contraindications. She desires a long-acting, reversible method that she does not have to remember daily. She has never been pregnant and desires fertility in 3-5 years. Which of the following is the most appropriate recommendation?

A. Long-acting reversible contraception (LARC) — intrauterine device (hormonal or copper) or subdermal implant

B. Combined oral contraceptive pills

C. Male condoms alone

D. Depot medroxyprogesterone acetate (Depo-Provera) injection

42. A 52-year-old postmenopausal woman presents with bloody nipple discharge from the right breast. The discharge is unilateral, spontaneous, and from a single duct. No palpable breast mass is identified. Mammography is normal. Ultrasound reveals a small intraductal lesion near the nipple. Which of the following is the most likely diagnosis?

A. Fibroadenoma

B. Fibrocystic changes

C. Intraductal papilloma

D. Paget disease of the nipple

43. A 35-year-old woman at 32 weeks gestation presents with intense pruritus, particularly on the palms and soles, that is worse at night. She has no rash or skin lesions. Laboratory studies reveal total bile acids 45 μmol/L (elevated), AST 85 U/L (mildly elevated), and ALT 78 U/L (mildly elevated). Bilirubin is normal. Which of the following is the most likely diagnosis?

A. HELLP syndrome

B. Intrahepatic cholestasis of pregnancy

C. Acute fatty liver of pregnancy

D. Pruritic urticarial papules and plaques of pregnancy (PUPPP)

44. A 28-year-old woman presents with chronic pelvic pain, deep dyspareunia, dyschezia (painful bowel movements during menses), and infertility for 18 months. Laparoscopy reveals blue-black "powder burn" lesions and red flame-like implants on the peritoneal surfaces, uterosacral ligaments, and cul-de-sac. A 3-centimeter chocolate cyst is found on the right ovary. Which of the following findings on laparoscopy is most characteristic of endometriosis?

A. Caseous necrosis

B. Mucinous ascites

C. Dense adhesions with normal peritoneal surfaces

D. Peritoneal implants with ectopic endometrial glands and stroma (confirmed histologically)

45. A 30-year-old woman at 38 weeks gestation presents in labor. Her prenatal records show a previous low transverse cesarean delivery 3 years ago. She has had one subsequent uncomplicated vaginal delivery. She presents with an unfavorable cervix (Bishop score 3). She desires vaginal delivery. Her current pregnancy is uncomplicated with a vertex presentation and estimated fetal weight of 3,200 grams. Which of the following is the most appropriate recommendation regarding trial of labor after cesarean (TOLAC)?

A. She is a candidate for TOLAC, but prostaglandin cervical ripening agents (misoprostol) should be avoided due to increased risk of uterine rupture

B. She must have a repeat cesarean delivery because VBAC is never safe

C. Oxytocin is absolutely contraindicated during TOLAC

D. TOLAC is only permitted if the prior incision was a classical (vertical) incision

46. A 26-year-old woman presents for her routine Pap smear. Results show a high-grade squamous intraepithelial lesion (HSIL). HPV testing is positive for high-risk HPV type 16. She has no history of abnormal Pap smears. Which of the following is the most appropriate next step?

A. Repeat Pap smear in 1 year

B. HPV vaccination now to treat the current infection

C. Colposcopy with directed cervical biopsies

D. Immediate hysterectomy

47. A 28-year-old woman at 14 weeks gestation undergoes routine maternal serum screening. Results reveal elevated maternal serum alpha-fetoprotein (MSAFP). Ultrasound confirms a single viable fetus with accurate gestational dating. Which of the following fetal conditions is most commonly associated with elevated MSAFP?

A. Down syndrome (trisomy 21)

B. Open neural tube defects (anencephaly, spina bifida)

C. Turner syndrome (45,X)

D. Edwards syndrome (trisomy 18)

48. A 36-year-old G4P3 woman at 39 weeks gestation delivers a healthy infant vaginally. Twenty minutes after delivery of the placenta, she develops heavy vaginal bleeding estimated at 800 mL. Her uterus feels soft, boggy, and enlarged on abdominal palpation. Vital signs show heart rate 115 bpm and blood pressure 95/60 mmHg. The placenta was delivered intact. No cervical or vaginal lacerations are identified. Which of the following is the most likely cause of her postpartum hemorrhage?

A. Retained placental fragments

B. Cervical laceration

C. Coagulopathy

D. Uterine atony

49. A 45-year-old woman presents with a 3-centimeter firm, non-tender, well-circumscribed, mobile mass in the left breast. Core needle biopsy reveals a fibroepithelial lesion with hypercellular stroma, leaf-like projections, and stromal overgrowth. Which of the following is the most likely diagnosis?

A. Phyllodes tumor

B. Fibroadenoma

C. Invasive lobular carcinoma

D. Fat necrosis

50. A 25-year-old woman at 16 weeks gestation presents with urinary frequency, dysuria, and suprapubic discomfort. Urinalysis reveals pyuria and bacteriuria. Urine culture grows greater than 100,000 CFU/mL of Escherichia coli. She has no flank pain, fever, or systemic symptoms. She has no drug allergies. Which of the following is the most appropriate antibiotic treatment for uncomplicated cystitis in pregnancy?

A. Ciprofloxacin (contraindicated in pregnancy)

B. Oral cephalexin, amoxicillin-clavulanate, or nitrofurantoin (safe in second trimester) for 5-7 days

C. Trimethoprim-sulfamethoxazole (avoid in first trimester and near term)

D. Doxycycline (contraindicated in pregnancy)

PRACTICE TEST 15: ANSWER KEY WITH EXPLANATIONS

Gynecology and Obstetrics

1. B. Complete hydatidiform mole. A complete hydatidiform mole is an abnormal pregnancy resulting from fertilization of an empty ovum (46,XX, entirely paternal in origin), producing trophoblastic proliferation without fetal development. Classic findings include a "snowstorm" or "cluster of grapes" pattern on ultrasound (representing hydropic chorionic villi), markedly elevated beta-hCG (often exceeding 100,000 mIU/mL), uterus larger than expected for gestational age, no fetal parts, and bilateral theca lutein cysts (from ovarian hyperstimulation by excessive hCG). Patients present with vaginal bleeding, hyperemesis gravidarum, and occasionally preeclampsia before 20 weeks (unusual timing). Treatment is suction curettage evacuation. Serial beta-hCG monitoring for 6-12 months is mandatory to detect gestational trophoblastic neoplasia (persistent or rising hCG indicates malignant transformation, occurring in approximately 15-20% of complete moles). Reliable contraception during monitoring is essential to avoid confounding hCG interpretation.

2. D. Placental abruption. Placental abruption is premature separation of a normally implanted placenta from the uterine wall before delivery, occurring in approximately 1% of pregnancies. Classic features include painful vaginal bleeding, uterine tenderness, a rigid "board-like" abdomen (from retroplacental hemorrhage causing uterine irritability and tetanic contractions), and fetal distress (late decelerations with decreased variability indicate uteroplacental insufficiency). Major risk factors include chronic hypertension (strongest association), cocaine use (acute vasospasm causing placental separation), prior abruption, trauma, smoking, and advanced maternal age. Cocaine use combined with hypertension dramatically increases risk. Abruption is a clinical diagnosis — ultrasound has low sensitivity (approximately 25-50%) for detecting retroplacental hemorrhage. Severe abruption can cause DIC, hemorrhagic shock, fetal death, and Couvelaire uterus. Management depends on severity and gestational age, with emergent cesarean delivery indicated for fetal distress.

3. A. Placenta previa. Placenta previa is the implantation of the placenta over or near the internal cervical os. It is classified as complete (entirely covering the os), partial (partially covering), or marginal/low-lying (edge within 2 cm of the os). The hallmark presentation is painless, bright red vaginal bleeding in the second or third trimester, typically after 28 weeks. Risk factors include prior cesarean delivery (the most significant modifiable risk factor — risk increases with number of prior cesarean sections), advanced maternal age, multiparity, smoking, and prior placenta previa. Digital cervical examination is absolutely contraindicated as it may precipitate catastrophic hemorrhage. Diagnosis is by transvaginal ultrasound (safe and more accurate than transabdominal). Management depends on gestational age and bleeding

severity — expectant management with pelvic rest for preterm gestations with stable bleeding, and planned cesarean delivery at 36-37 weeks for uncomplicated complete previa.

4. C. Ectopic pregnancy. Ectopic pregnancy occurs when a fertilized ovum implants outside the uterine cavity, with approximately 95% occurring in the fallopian tube (ampulla is the most common site). Classic presentation includes amenorrhea, unilateral pelvic pain, and vaginal spotting. A beta-hCG level of 2,500 mIU/mL (above the discriminatory zone of 1,500-2,000 for transvaginal ultrasound) without a visible intrauterine pregnancy is highly suspicious for ectopic pregnancy. The "ring of fire" sign on Doppler represents increased vascularity surrounding the ectopic gestational sac. Free fluid in the cul-de-sac suggests rupture or bleeding. Risk factors include prior ectopic, PID/tubal damage, prior tubal surgery, IUD use, and assisted reproduction. Treatment options include methotrexate (for hemodynamically stable patients with unruptured ectopic, beta-hCG less than 5,000, no fetal cardiac activity) or surgical management (salpingectomy or salpingostomy via laparoscopy).

5. A. Emergent cesarean delivery. Repetitive severe variable decelerations (dropping to 70 bpm lasting 90 seconds) that do not improve with amnioinfusion indicate significant umbilical cord compression with inadequate fetal oxygenation. This is a category III fetal heart rate tracing — the most ominous pattern indicating impending fetal compromise requiring immediate intervention. While variable decelerations are the most common deceleration pattern and often respond to position changes and amnioinfusion, persistent severe variables (below 70 bpm, lasting greater than 60 seconds) despite interventions indicate the need for emergent operative delivery. At 8 cm dilation, vaginal delivery is not imminent enough to await, and the severity of the decelerations precludes continued observation. Intrauterine resuscitation measures (maternal repositioning, IV fluid bolus, oxygen, discontinuation of oxytocin) should be performed concurrently with preparation for cesarean delivery.

6. B. Uterine leiomyomas (fibroids). Uterine leiomyomas are the most common benign tumors of the female reproductive tract, affecting approximately 70-80% of women by age 50, with higher prevalence in African American women. They are estrogen and progesterone-dependent benign smooth muscle tumors. Classification by location includes intramural (most common, within the myometrial wall), submucosal (protruding into the endometrial cavity — most likely to cause heavy bleeding), and subserosal (protruding from the serosal surface — most likely to cause pressure symptoms). Symptoms include menorrhagia (most common symptom, particularly with submucosal fibroids), pelvic pressure, urinary frequency (from bladder compression), constipation, and infertility. The irregularly enlarged, firm uterus with multiple discrete masses is classic. Treatment depends on symptoms and fertility desires — medical management (GnRH agonists, tranexamic acid, hormonal therapy), uterine artery embolization, myomectomy (fertility-sparing), or hysterectomy (definitive).

7. D. Total hysterectomy. Complex atypical endometrial hyperplasia (now classified as endometrial intraepithelial neoplasia, EIN) carries a significant risk of concurrent invasive endometrial carcinoma (approximately 25-40%) and a high rate of progression to carcinoma (approximately 30-50%) if untreated. Hysterectomy is the definitive treatment for women who have completed childbearing, as it eliminates both the premalignant condition and any concurrent occult carcinoma. Risk factors for endometrial

hyperplasia and carcinoma include chronic unopposed estrogen exposure from obesity (peripheral aromatization of androgens to estrogen in adipose tissue), chronic anovulation, diabetes, nulliparity, tamoxifen use, and polycystic ovary syndrome. For women desiring future fertility, high-dose progestin therapy (medroxyprogesterone acetate or levonorgestrel IUD) with close surveillance and repeat endometrial biopsy at 3-6 month intervals can be considered, though the risk of concurrent carcinoma must be discussed.

8. C. Imperforate hymen. Imperforate hymen is the most common obstructive anomaly of the female reproductive tract, caused by failure of the hymenal membrane to perforate during fetal development. It presents at puberty with cyclic pelvic pain (from monthly menstruation accumulating behind the obstruction), primary amenorrhea (despite normal secondary sexual characteristics indicating intact hormonal function), and a bulging, bluish membrane at the vaginal introitus (from hematocolpos — accumulated menstrual blood behind the imperforate membrane). Lower abdominal distension may develop from hematometra (blood in the uterus). Normal breast development (Tanner V) confirms functional ovaries and hypothalamic-pituitary-gonadal axis. This distinguishes imperforate hymen from Müllerian agenesis (absent uterus and upper vagina, no cyclic pain) and androgen insensitivity syndrome (46,XY with female external genitalia, absent uterus). Treatment is simple surgical hymenectomy, which is curative.

9. A. Endometriosis with endometrioma. Endometriosis is the presence of functional endometrial glands and stroma outside the uterine cavity, affecting approximately 10% of reproductive-age women. The classic symptom triad is dysmenorrhea, dyspareunia (deep), and infertility. Dyschezia (painful defecation during menses) indicates cul-de-sac or rectovaginal involvement. Physical examination findings of uterosacral nodularity, fixed retroverted uterus, and posterior cul-de-sac tenderness are characteristic. Endometriomas ("chocolate cysts") are ovarian cysts containing old hemorrhagic material from ectopic endometrial tissue, appearing as homogeneous hypoechoic cysts with ground-glass echogenicity on ultrasound. CA-125 may be mildly elevated but is nonspecific. Laparoscopy with histologic confirmation is the gold standard for diagnosis. Treatment includes NSAIDs for pain, hormonal suppression (combined OCs, progestins, GnRH agonists), and surgical excision of implants for refractory symptoms or infertility.

10. B. Pelvic inflammatory disease (PID). PID is an ascending polymicrobial infection of the upper female reproductive tract (endometrium, fallopian tubes, ovaries, peritoneum) most commonly caused by Chlamydia trachomatis and Neisseria gonorrhoeae, often with anaerobic bacteria. Minimum diagnostic criteria (CDC guidelines) include uterine/adnexal tenderness OR cervical motion tenderness in a sexually active woman at risk for STIs. Supportive findings include temperature greater than 100.4°F, mucopurulent cervical discharge, abundant WBCs on wet mount, elevated ESR/CRP, and laboratory confirmation of cervical infection. Treatment for mild-moderate PID is outpatient antibiotics — IM ceftriaxone 500 mg plus oral doxycycline 100 mg twice daily for 14 days, with or without metronidazole. Hospitalization is indicated for tubo-ovarian abscess, pregnancy, failure of outpatient therapy, severe illness, or surgical emergency cannot be excluded. Long-term complications include tubal factor infertility, ectopic pregnancy, and chronic pelvic pain.

11. D. Obesity (chronic unopposed estrogen exposure). Endometrial cancer is the most common gynecologic malignancy in the United States. The most significant risk factor is chronic unopposed estrogen exposure — estrogen stimulates endometrial proliferation without the counterbalancing effect of progesterone. Obesity is the single most important modifiable risk factor because adipose tissue contains aromatase, which converts circulating androgens (androstenedione) to estrone, creating a state of chronic unopposed estrogen stimulation of the endometrium. With a BMI of 42, this patient has a dramatically elevated risk. Additional risk factors contributing to unopposed estrogen include anovulation, nulliparity, early menarche, late menopause, polycystic ovary syndrome, tamoxifen use, and estrogen-only hormone replacement therapy. Postmenopausal bleeding is endometrial cancer until proven otherwise and requires endometrial biopsy. Type I endometrial cancer (endometrioid, estrogen-dependent) accounts for approximately 80% of cases and has a favorable prognosis.

12. C. Preeclampsia without severe features. Preeclampsia is defined as new-onset hypertension (systolic greater than 140 or diastolic greater than 90 mmHg on two readings at least 4 hours apart) after 20 weeks gestation with proteinuria (300 mg/24 hours or protein/creatinine ratio greater than 0.3) or other end-organ dysfunction. This patient meets criteria for preeclampsia without severe features — elevated blood pressure above 140/90 with proteinuria but without severe-range blood pressures (greater than 160/110), thrombocytopenia (below 100,000), elevated liver enzymes, renal insufficiency, pulmonary edema, or cerebral/visual disturbances. Mild headache alone does not constitute severe features. Management of preeclampsia without severe features before 37 weeks includes close maternal and fetal surveillance, blood pressure monitoring, serial labs (weekly platelet count, liver enzymes, creatinine), and delivery at 37 weeks. Progression to severe features mandates earlier delivery.

13. B. Begin oxytocin induction and administer GBS prophylaxis. At 41 weeks gestation with ruptured membranes and positive GBS status, both induction of labor and GBS prophylaxis are indicated. Prolonged rupture of membranes (greater than 18 hours) increases neonatal GBS infection risk, making timely delivery important. Oxytocin induction is appropriate because the patient is at term, membranes are ruptured, and labor has not begun spontaneously within 12 hours. GBS prophylaxis (IV penicillin G every 4 hours or IV ampicillin every 4 hours until delivery) should be administered to all GBS-positive women during labor to prevent early-onset neonatal GBS sepsis, meningitis, and pneumonia. For penicillin-allergic patients, alternatives include cefazolin (low-risk allergy) or clindamycin/vancomycin (high-risk allergy). Betamethasone for fetal lung maturity is not indicated at 41 weeks (indicated between 24-36+6 weeks for preterm delivery risk).

14. C. Tocolytics, betamethasone, magnesium sulfate, and GBS prophylaxis. Preterm labor at 29 weeks with cervical dilation, effacement, and positive fetal fibronectin (a glycoprotein released when the chorionic-decidual interface is disrupted, indicating high risk for delivery within 7-14 days) requires a multimodal management approach. Tocolytics (nifedipine, indomethacin before 32 weeks, or terbutaline) do not prevent preterm birth but delay delivery for 48 hours to allow administration of antenatal corticosteroids (betamethasone — two doses 24 hours apart) for fetal lung maturity, which reduces respiratory distress syndrome, intraventricular hemorrhage, and neonatal mortality. Magnesium sulfate is

administered for fetal neuroprotection when delivery is anticipated before 32 weeks, reducing the risk of cerebral palsy. GBS prophylaxis is administered if the patient's GBS status is positive or unknown.

15. A. Repeat quantitative beta-hCG in 48 hours. When beta-hCG is below the discriminatory zone (1,500-2,000 mIU/mL for transvaginal ultrasound) and no intrauterine pregnancy or adnexal pathology is visualized, the pregnancy location cannot be definitively determined — this represents a "pregnancy of unknown location" (PUL). The diagnosis could be a very early viable intrauterine pregnancy, an ectopic pregnancy, or a nonviable pregnancy. Serial beta-hCG measurements 48 hours apart guide management — a normal intrauterine pregnancy should demonstrate at least a 53% rise in hCG every 48 hours (minimum doubling time approximately 72 hours in early pregnancy). A subnormal rise (less than 53%) suggests an ectopic or nonviable pregnancy, while a declining level suggests a failed pregnancy. Methotrexate should not be administered without confirming ectopic pregnancy, as it would terminate a potentially viable intrauterine pregnancy.

16. D. IV clindamycin. GBS prophylaxis is essential during labor for colonized mothers to prevent early-onset neonatal GBS disease. First-line prophylaxis is IV penicillin G or IV ampicillin. However, this patient has a history of severe penicillin allergy (anaphylaxis with throat swelling and difficulty breathing), which is a high-risk allergy. For patients with high-risk penicillin allergy, cefazolin (a first-generation cephalosporin) carries a small but real risk of cross-reactivity and is not recommended. When the GBS isolate is susceptible to clindamycin (as confirmed by sensitivity testing in this case), IV clindamycin is the recommended alternative. If the isolate is clindamycin-resistant, IV vancomycin is used. Importantly, sensitivity testing should be requested on all GBS cultures from penicillin-allergic patients to guide antibiotic selection.

17. B. Mature cystic teratoma (dermoid cyst). Mature cystic teratomas (dermoid cysts) are the most common ovarian germ cell tumors, accounting for approximately 10-20% of all ovarian neoplasms. They are benign in the vast majority of cases (malignant transformation occurs in less than 1-2%, usually in postmenopausal women). Dermoid cysts contain tissues derived from all three embryonic germ layers — ectoderm (hair, skin, sebaceous material), mesoderm (fat, bone, cartilage, teeth), and endoderm (thyroid tissue, respiratory epithelium). Ultrasound characteristically shows a complex mass with solid and cystic components, hyperechoic areas representing fat, calcifications (teeth or bone), and the "tip of the iceberg" sign (acoustic shadowing from dense calcified components). Dermoid plug (Rokitansky nodule) is a mural nodule containing hair, teeth, and bone. They most commonly affect reproductive-age women. Complications include ovarian torsion (from the mass weight), rupture causing chemical peritonitis, and rarely malignant transformation.

18. C. Adenomyosis. Adenomyosis is the presence of endometrial glands and stroma within the myometrium, causing reactive hypertrophy of the surrounding smooth muscle. It is often described as "endometriosis of the uterine wall." Classic presentation includes dysmenorrhea (severe, progressively worsening), menorrhagia, and a uniformly enlarged, globular, tender ("boggy") uterus — distinguishing it from leiomyomas, which produce an irregularly enlarged uterus with discrete palpable masses. Ultrasound findings include a diffusely enlarged uterus with heterogeneous myometrial echotexture,

myometrial cysts (ectopic endometrial glands), and ill-defined endometrial-myometrial junction. MRI is the most accurate imaging modality, with a thickened junctional zone greater than 12 mm being diagnostic. Adenomyosis primarily affects multiparous women in their 30s-50s. Medical management includes NSAIDs, hormonal therapy (progestins, GnRH agonists, levonorgestrel IUD). Hysterectomy is the definitive treatment for refractory symptoms.

19. A. Chronic vulvar dermatosis (lichen sclerosus) and/or HPV infection. Vulvar squamous cell carcinoma accounts for approximately 90% of vulvar cancers and has two distinct pathogenic pathways. The HPV-dependent pathway (approximately 30-40%) occurs in younger women through high-risk HPV (types 16, 18) causing vulvar intraepithelial neoplasia (VIN) progressing to invasive carcinoma. The HPV-independent pathway (approximately 60-70%) occurs in older women, strongly associated with chronic vulvar inflammatory dermatoses, particularly lichen sclerosus, which produces chronic inflammation, epithelial damage, and eventually differentiated VIN and invasive carcinoma. This patient's history of lichen sclerosus identifies the HPV-independent pathway. Lichen sclerosus presents with vulvar pruritus, whitened/thinned skin ("cigarette paper" appearance), and carries a 3-5% lifetime risk of malignant transformation. Long-term follow-up and biopsy of any suspicious lesions is essential.

20. D. Gestational diabetes mellitus (GDM). GDM is diagnosed using a two-step screening approach in the United States. The first step is a 1-hour glucose challenge test (50-gram GCT) at 24-28 weeks — a result of 140 mg/dL or greater (some use 130 mg/dL) is a positive screen requiring the diagnostic second step. The 3-hour 100-gram OGTT diagnoses GDM when two or more values meet or exceed the Carpenter-Coustan thresholds — fasting 95 mg/dL, 1-hour 180 mg/dL, 2-hour 155 mg/dL, 3-hour 140 mg/dL. This patient exceeds three of four values (fasting 98, 1-hour 192, 2-hour 170, 3-hour 148), confirming GDM. GDM increases risks of macrosomia, birth trauma, neonatal hypoglycemia, shoulder dystocia, preeclampsia, and future type 2 diabetes in the mother. Initial management includes dietary modification, glucose monitoring, and exercise, with insulin therapy added if glycemic targets are not met.

21. B. Intramuscular benzathine penicillin G 2.4 million units single dose. Syphilis in pregnancy is a serious condition requiring urgent treatment to prevent congenital syphilis (which can cause stillbirth, hydrops fetalis, hepatosplenomegaly, snuffles, rash, and skeletal abnormalities). Positive RPR (screening non-treponemal test) confirmed by positive FTA-ABS (confirmatory treponemal test) establishes the diagnosis. Without visible lesions and with a relatively high titer, this likely represents early latent syphilis. Benzathine penicillin G is the only proven effective treatment for syphilis in pregnancy — no alternative regimen has been demonstrated to prevent congenital syphilis. Doxycycline (the alternative for non-pregnant penicillin-allergic patients) is contraindicated in pregnancy due to fetal dental and bone toxicity. Penicillin-allergic pregnant women should undergo penicillin desensitization followed by penicillin treatment. Treatment should never be deferred, as every week of delay increases the risk of transplacental transmission.

22. A. Intravenous magnesium sulfate. Eclampsia is defined as the occurrence of generalized tonic-clonic seizures in a patient with preeclampsia not attributable to other causes. It is a life-threatening obstetric emergency. IV magnesium sulfate is the drug of choice for both treatment of eclamptic seizures

and prevention of recurrent seizures — it is superior to diazepam, phenytoin, and other anticonvulsants for this specific indication, as demonstrated by the landmark MAGPIE trial. Loading dose is 4-6 grams IV over 15-20 minutes, followed by a maintenance infusion of 1-2 grams/hour. Magnesium acts by blocking NMDA receptors and reducing cerebral vasospasm. Therapeutic magnesium level is 4-7 mEq/L. Toxicity signs include loss of deep tendon reflexes (first sign, at 7-10 mEq/L), respiratory depression (10-13 mEq/L), and cardiac arrest (greater than 15 mEq/L). Calcium gluconate is the antidote for magnesium toxicity. Delivery should be expedited after maternal stabilization.

23. D. Hospitalization with IV broad-spectrum antibiotics and close monitoring. Tubo-ovarian abscess (TOA) is a serious complication of PID consisting of an inflammatory mass involving the fallopian tube, ovary, and adjacent pelvic structures, typically resulting from inadequately treated PID. Initial management for unruptured TOA in a hemodynamically stable patient is hospitalization with IV broad-spectrum antibiotics providing coverage for the polymicrobial flora — regimens include clindamycin plus gentamicin, or ampicillin-sulbactam, or alternative combinations with anaerobic coverage. Approximately 70-75% of TOAs respond to antibiotic therapy alone without surgical intervention. If clinical improvement does not occur within 48-72 hours, or if the abscess is greater than 8-9 cm, image-guided percutaneous or transvaginal drainage may be performed. Surgical intervention (drainage, salpingo-oophorectomy) is reserved for ruptured TOA (a surgical emergency) or failure of medical management.

24. C. Uteroplacental insufficiency. Late decelerations are symmetric, gradual decreases in fetal heart rate that begin after the onset of a uterine contraction and return to baseline after the contraction ends. They indicate uteroplacental insufficiency — inadequate oxygen delivery from the placenta to the fetus during contractions when uterine blood flow is transiently reduced. Causes include maternal hypotension, placental dysfunction (preeclampsia, placental abruption, post-dates), excessive uterine activity, and maternal hypoxia. Late decelerations with moderate variability suggest the fetus is compensating, while late decelerations with absent variability indicate fetal acidemia and decompensation. This contrasts with early decelerations (benign, from fetal head compression, mirror contractions) and variable decelerations (abrupt, from umbilical cord compression). Management includes left lateral positioning, IV fluid bolus, oxygen supplementation, and discontinuation of oxytocin.

25. B. Fibroadenoma. Fibroadenomas are the most common benign breast tumors in women under 30 years old. They are composed of both stromal and epithelial elements (fibroepithelial tumors). Classic presentation is a painless, firm, well-circumscribed, rubbery, freely mobile ("breast mouse") mass that is non-tender and moves easily within the breast tissue. They are typically solitary but may be multiple in 10-15% of cases. Ultrasound characteristically reveals a well-defined, solid, homogeneous, hypoechoic mass with smooth borders and a width-greater-than-height orientation (parallel to the skin). Fibroadenomas are estrogen-responsive, often enlarging during pregnancy and regressing after menopause. Management in women under 30 with classic imaging features is observation with follow-up imaging, as many fibroadenomas remain stable or regress. Excision is considered for masses greater than 2-3 cm, rapid growth, patient anxiety, or atypical features.

26. D. Positive nitrazine test, positive ferning, and visible pooling. Rupture of membranes (ROM) is confirmed by clinical assessment during sterile speculum examination using three complementary tests. Pooling — visible accumulation of clear amniotic fluid in the posterior vaginal fornix or leaking from the cervical os with coughing — is the most specific clinical sign. Nitrazine test — amniotic fluid is alkaline (pH 7.0-7.5), turning nitrazine paper dark blue, contrasting with normal vaginal pH of 4.0-4.5 (false positives occur with blood, semen, bacterial vaginosis, or cervical mucus). Ferning — when amniotic fluid is air-dried on a glass slide, the sodium chloride content crystallizes in a characteristic arborization (fern) pattern under microscopy. The combination of all three positive findings provides the highest diagnostic confidence. If clinical assessment is equivocal, the AmniSure test (detecting placental alpha microglobulin-1, PAMG-1) provides definitive confirmation.

27. A. Cyclic or continuous progestin therapy with follow-up biopsy. Simple endometrial hyperplasia without atypia has a low risk of progression to endometrial carcinoma (approximately 1-3%). For women desiring future fertility, progestin therapy is the appropriate first-line treatment — options include oral medroxyprogesterone acetate (10-20 mg daily for 12-14 days per cycle or continuously), megestrol acetate, or the levonorgestrel IUD (which provides continuous local progestin delivery and is considered the most effective medical option). Progestins counteract the proliferative effects of unopposed estrogen, inducing secretory transformation and regression of the hyperplastic endometrium. Follow-up endometrial biopsy at 3-6 months is essential to confirm regression. Addressing underlying risk factors (weight loss for obesity, treatment of anovulation) is equally important for long-term management. Hysterectomy is reserved for women who have completed childbearing or for hyperplasia with atypia.

28. B. Cervical insufficiency (incompetent cervix). Cervical insufficiency is painless cervical dilation and effacement in the second trimester without contractions, bleeding, or infection, leading to recurrent pregnancy loss. The hallmark is a history of painless second-trimester losses, typically between 16-24 weeks. Risk factors include prior cervical surgery (LEEP, cone biopsy, cervical cerclage), congenital uterine anomalies, DES exposure, and prior cervical trauma. A short cervical length on transvaginal ultrasound (less than 2.5 cm before 24 weeks) supports the diagnosis. Treatment options include history-indicated cerclage (placed at 12-14 weeks in women with classic history), ultrasound-indicated cerclage (placed when cervical shortening is detected on surveillance), and vaginal progesterone supplementation (for short cervix without classic history). Rescue cerclage may be attempted when membranes are bulging, though success rates are lower.

29. D. Rh immune globulin at 28 weeks and within 72 hours of delivery if newborn is Rh-positive. Rh alloimmunization occurs when an Rh-negative mother develops anti-D antibodies after exposure to Rh-positive fetal red blood cells (from fetomaternal hemorrhage during delivery, abortion, ectopic pregnancy, amniocentesis, trauma, or placental abruption). These antibodies can cross the placenta in subsequent pregnancies and destroy Rh-positive fetal red blood cells, causing hemolytic disease of the fetus and newborn (HDFN). Prevention involves administering anti-D immunoglobulin (RhoGAM) at 28 weeks gestation (to cover third-trimester fetomaternal hemorrhage) and within 72 hours of delivery if the newborn is Rh-positive. Additional doses are given after any sensitizing event (amniocentesis, CVS, abdominal trauma, miscarriage, ectopic pregnancy). The standard dose (300 μg) covers approximately 30

mL of whole fetal blood. A Kleihauer-Betke test quantifies fetomaternal hemorrhage to determine if additional doses are needed.

30. C. Systemic hormone replacement therapy (low-dose estrogen plus progestin). This patient presents with vasomotor symptoms of perimenopause/menopause — hot flashes, night sweats, and vaginal dryness — confirmed by elevated FSH and low estradiol. Systemic hormone replacement therapy (HRT) is the most effective treatment for moderate-to-severe vasomotor symptoms, reducing hot flash frequency by approximately 75-80%. For women with an intact uterus, combined estrogen plus progestin is mandatory to prevent unopposed estrogen stimulation of the endometrium, which would increase the risk of endometrial hyperplasia and carcinoma. The current recommendation is the lowest effective dose for the shortest duration necessary. Contraindications include active breast cancer, coronary heart disease, prior VTE, active liver disease, and undiagnosed vaginal bleeding. SSRIs/SNRIs and gabapentin are alternatives for women who cannot take HRT. The risk-benefit ratio is most favorable when HRT is initiated within 10 years of menopause onset or before age 60.

31. A. Condylomata acuminata (genital warts). Condylomata acuminata are anogenital warts caused by human papillomavirus (HPV), primarily low-risk types 6 and 11. They present as flesh-colored, exophytic, papillomatous or pedunculated lesions on the vulva, vagina, cervix, or perianal area. Acetowhite change (whitening after application of 3-5% acetic acid) helps identify subclinical HPV lesions. Condylomata acuminata must be distinguished from condylomata lata of secondary syphilis (flat, moist, gray-white broad-based lesions, highly infectious, positive darkfield microscopy and serologic testing). Treatment options include patient-applied therapies (imiquimod, podofilox) and provider-administered treatments (cryotherapy, trichloroacetic acid, surgical excision, laser ablation). HPV vaccination (9-valent vaccine covering types 6, 11, 16, 18, 31, 33, 45, 52, 58) prevents infection but does not treat established disease.

32. B. Polycystic ovary syndrome (PCOS). PCOS is the most common endocrine disorder in reproductive-age women, affecting approximately 6-12%. Diagnosis requires two of three Rotterdam criteria — oligo/anovulation (irregular menstrual cycles), clinical or biochemical hyperandrogenism (hirsutism, acne, elevated free testosterone), and polycystic ovarian morphology on ultrasound (12 or more follicles per ovary or ovarian volume greater than 10 mL). This patient meets all three criteria. Additional features include insulin resistance (acanthosis nigricans, elevated fasting insulin), obesity, elevated LH-to-FSH ratio (greater than 2:1), and elevated DHEA-S. PCOS is the most common cause of anovulatory infertility. Treatment targets the patient's primary concern — menstrual regulation (combined OCs), hirsutism (spironolactone, OCs), infertility (letrozole is first-line for ovulation induction), and metabolic management (weight loss, metformin). Long-term risks include type 2 diabetes, cardiovascular disease, and endometrial cancer from unopposed estrogen.

33. C. Trendelenburg/knee-chest position, elevate presenting part, emergent cesarean. Umbilical cord prolapse is an obstetric emergency occurring when the umbilical cord descends ahead of or alongside the fetal presenting part after membrane rupture, resulting in cord compression between the presenting part and the birth canal, causing acute fetal hypoxia and potentially fetal death within minutes. Immediate management includes placing the patient in Trendelenburg or knee-chest position to shift the presenting

part away from the pelvis, manually elevating the presenting part off the cord through the vagina (continuous manual pressure until delivery), filling the bladder with saline via Foley catheter to further elevate the presenting part, and proceeding with emergent cesarean delivery. The cord should not be pushed back into the uterus, and oxytocin augmentation and fundal pressure are contraindicated. Risk factors include artificial ROM, polyhydramnios, fetal malpresentation, preterm delivery, and multiparity.

34. D. Core needle biopsy. Any suspicious breast mass — particularly one that is firm, fixed, has irregular borders, and is associated with spiculated mammographic findings with microcalcifications — requires tissue diagnosis. Core needle biopsy is the preferred initial diagnostic procedure, providing histologic architecture (distinguishing in situ from invasive disease), receptor status (ER, PR, HER2), and tumor grade. It is less invasive than excisional biopsy, can be performed in the office or under image guidance, and has sensitivity exceeding 95%. Imaging alone (mammography or MRI) cannot definitively distinguish benign from malignant disease. A family history of breast cancer in a first-degree relative (mother diagnosed at age 42) increases this patient's lifetime breast cancer risk and may warrant genetic counseling/testing for BRCA1/2 mutations. The "triple test" concordance (clinical, imaging, and pathology findings) ensures diagnostic accuracy.

35. B. Low-lying placenta (marginal). Placental location is classified based on the relationship of the placental edge to the internal cervical os. Complete placenta previa — the placenta completely covers the internal os. Low-lying placenta — the placental edge is within 2 cm of the internal os but does not cover it. Normal placentation — the placental edge is greater than 2 cm from the internal os. This distinction is clinically important because complete previa mandates cesarean delivery, while a low-lying placenta may allow a trial of vaginal delivery depending on the exact distance and clinical circumstances. Placental "migration" (actually differential growth of the lower uterine segment) may resolve low-lying placentation as the pregnancy progresses, necessitating follow-up imaging at 32-36 weeks.

36. A. Ovarian torsion. Ovarian torsion is a gynecologic emergency caused by partial or complete rotation of the ovarian vascular pedicle (infundibulopelvic ligament), compromising arterial inflow and venous outflow, leading to ischemia and infarction if not promptly corrected. It presents with sudden onset of severe unilateral lower abdominal/pelvic pain, nausea, and vomiting, often with a palpable adnexal mass. Risk factors include ovarian enlargement from any cause — ovarian cysts, tumors, and ovarian hyperstimulation (as in this IVF patient with controlled ovarian hyperstimulation). Doppler ultrasound showing absent or decreased arterial and venous flow is diagnostic, though flow may be preserved early due to dual blood supply. Treatment is emergent laparoscopic detorsion (preferred over oophorectomy) to salvage the ovary. Even if the ovary appears ischemic (darkened), detorsion alone often results in recovery.

37. C. Epithelial ovarian cancer (most likely serous carcinoma). Epithelial ovarian cancer (EOC) is the most lethal gynecologic malignancy, primarily because approximately 70% of cases present at advanced stages (stage III-IV). Serous carcinoma is the most common histologic subtype (approximately 70%). Postmenopausal women presenting with a pelvic mass, ascites, omental involvement ("omental caking"), and markedly elevated CA-125 have a high probability of advanced EOC. CA-125 is elevated in approximately 80% of epithelial ovarian cancers but is nonspecific (elevated in endometriosis, PID,

cirrhosis, and other conditions), limiting its utility as a screening tool. The Risk of Malignancy Index (RMI) incorporates CA-125, ultrasound features, and menopausal status to predict malignancy risk. Treatment is primary cytoreductive surgery (goal of no residual disease) followed by platinum-based chemotherapy (carboplatin plus paclitaxel). BRCA1/2 testing is recommended for all EOC patients.

38. D. Preeclampsia with severe features/HELLP syndrome. This presentation represents preeclampsia with severe features complicated by HELLP syndrome. Severe features include severe-range blood pressures (greater than 160 systolic or 110 diastolic), thrombocytopenia (below 100,000), impaired liver function (elevated transaminases to twice normal), renal insufficiency (creatinine above 1.1), pulmonary edema, or cerebral/visual disturbances. HELLP syndrome specifically includes Hemolysis (elevated LDH, schistocytes on peripheral smear, elevated indirect bilirubin), Elevated Liver enzymes, and Low Platelets. This patient has all components — schistocytes, LDH 820, AST 380/ALT 290, and platelets 72,000 — plus severe hypertension, headache, and visual disturbances. Complications include hepatic rupture, DIC, placental abruption, stroke, and fetal death. Management includes IV magnesium sulfate (seizure prophylaxis), antihypertensives (IV labetalol or hydralazine), and delivery. Corticosteroids for fetal lung maturity should not delay delivery when maternal condition is severe.

39. B. Fibrocystic breast changes. Fibrocystic changes are the most common benign breast condition, affecting approximately 50-60% of women, most commonly between ages 20-50. The hallmark is cyclic bilateral breast pain, tenderness, and nodularity that worsens premenstrually (during the luteal phase when estrogen and progesterone peak) and improves after menstruation. Physical examination reveals bilateral diffuse rope-like thickenings, nodularity, and tenderness predominantly in the upper outer quadrants (where glandular tissue is most abundant). Ultrasound typically reveals simple cysts. Fibrocystic changes represent a spectrum of histologic findings including cyst formation, fibrosis, and epithelial proliferation. They are not considered premalignant unless atypical ductal hyperplasia or atypical lobular hyperplasia is identified on biopsy. Management is conservative — supportive bra, NSAIDs, evening primrose oil, and caffeine reduction may provide symptomatic relief. Dominant masses or complex cysts warrant further evaluation with ultrasound and possible biopsy.

40. D. Complete abortion (if all products passed) or incomplete abortion (if tissue remains). This clinical picture — vaginal bleeding with passage of tissue, open cervical os, empty uterus on ultrasound, and declining beta-hCG — is most consistent with a complete abortion (spontaneous passage of all products of conception) or incomplete abortion (partial passage with retained tissue). The thin endometrial stripe (5 mm) and declining hCG suggest complete expulsion. In complete abortion, the cervical os may be closing or closed after tissue passage, bleeding diminishes, and no further intervention is needed. In incomplete abortion, retained products may cause continued bleeding and infection, requiring uterine evacuation (suction curettage or medical management with misoprostol). This contrasts with threatened abortion (bleeding with closed os and viable pregnancy), inevitable abortion (bleeding with open os before tissue passage), and missed abortion (non-viable pregnancy retained without bleeding or passage).

41. A. Long-acting reversible contraception (LARC) — IUD or subdermal implant. LARC methods are recommended by ACOG as first-line contraception for most women, including adolescents and

nulliparous women. They provide the highest contraceptive efficacy (failure rates less than 1%), require no daily adherence (eliminating user-dependent failure), are long-acting (3-10 years depending on type), and are rapidly reversible upon removal. Options include hormonal IUDs (levonorgestrel-releasing — Mirena 7 years, Kyleena 5 years, Liletta 8 years, Skyla 3 years), the copper IUD (Paragard, 10 years, non-hormonal), and the subdermal etonogestrel implant (Nexplanon, 3 years). Fertility returns rapidly after removal (within one cycle for most methods). For this patient desiring fertility in 3-5 years without daily pill compliance, LARC is ideal. Typical-use failure rates for OCs are approximately 7-9% due to missed pills, while LARC failure rates are less than 1% regardless of user behavior.

42. C. Intraductal papilloma. Intraductal papilloma is the most common cause of bloody or serosanguineous nipple discharge in reproductive-age and perimenopausal women. It is a benign papillary growth arising within the mammary duct, most commonly in the central/subareolar ducts. Classic presentation is unilateral, spontaneous, bloody or serous discharge from a single duct. Papillomas are often too small to palpate and may not be detected on mammography (as in this case). Ductography (galactography) or duct ultrasound may identify the intraductal lesion. Core biopsy or excisional biopsy is recommended because intraductal papillomas carry a small risk of harboring atypical cells or associated carcinoma (particularly central papillomas with atypia). Surgical duct excision (microdochectomy) is both diagnostic and therapeutic. Paget disease of the nipple presents with eczematous changes of the nipple (scaling, crusting, erythema) associated with an underlying breast carcinoma.

43. B. Intrahepatic cholestasis of pregnancy. ICP is the most common liver disorder specific to pregnancy, occurring in the second or third trimester. The hallmark symptom is intense pruritus, characteristically worse on the palms and soles and more severe at night, without a primary skin rash (excoriations from scratching may be present). Elevated total serum bile acids (above 10 μmol/L, often above 40 μmol/L in severe cases) is the most sensitive and specific laboratory finding. Mild transaminase elevations are common. ICP poses significant fetal risks — the elevated bile acids are toxic to the fetal heart and placental vasculature, increasing the risk of meconium-stained amniotic fluid, fetal distress, preterm delivery, and stillbirth (risk increases significantly with bile acids above 40 μmol/L). Treatment is ursodeoxycholic acid (UDCA), which reduces bile acid levels and pruritus. Early delivery at 36-37 weeks (or earlier for severe ICP) is recommended to reduce stillbirth risk.

44. D. Peritoneal implants with ectopic endometrial glands and stroma. Laparoscopy with histologic confirmation of ectopic endometrial tissue (glands and stroma) outside the uterus is the gold standard for diagnosing endometriosis. Classic laparoscopic appearances include "powder burn" or "gunshot" lesions (blue-black, dark brown hemosiderin deposits from chronic hemorrhage of ectopic endometrial tissue), red flame-like lesions (active, vascularized implants — considered the earliest and most active form), white fibrotic lesions (older, inactive implants), and "chocolate cysts" (endometriomas — ovarian cysts filled with old hemorrhagic material). Histologic confirmation requires identifying at least two of three features — endometrial glands, endometrial stroma, and hemosiderin-laden macrophages. Common locations include the ovaries (most common site), uterosacral ligaments, cul-de-sac, broad ligaments, and peritoneal surfaces. Staging uses the revised American Society for Reproductive Medicine (rASRM) classification (stages I-IV).

45. A. She is a candidate for TOLAC, but prostaglandin agents should be avoided. Trial of labor after cesarean (TOLAC) is a reasonable option for many women with a prior low transverse cesarean delivery. Success rates for vaginal birth after cesarean (VBAC) average approximately 60-80%. This patient has favorable factors — prior vaginal delivery (strongest predictor of successful VBAC), prior low transverse incision, no contraindications, appropriate fetal size, and vertex presentation. However, prostaglandin cervical ripening agents (misoprostol, dinoprostone) are contraindicated in TOLAC because they significantly increase the risk of uterine rupture (the most serious TOLAC complication, occurring in approximately 0.5-0.7% with spontaneous labor but increased 2-3 fold with prostaglandins). Mechanical cervical ripening (Foley balloon catheter) may be used cautiously. Oxytocin can be used for augmentation during TOLAC but should be titrated carefully. Classical (vertical) uterine incisions are a contraindication to TOLAC due to high rupture risk (4-9%).

46. C. Colposcopy with directed cervical biopsies. High-grade squamous intraepithelial lesion (HSIL) on Pap smear corresponds to cervical intraepithelial neoplasia 2 or 3 (CIN 2/3) and requires immediate colposcopic evaluation regardless of patient age or HPV status. HSIL carries a significant risk of harboring CIN 3 (approximately 50-70%) or occult invasive carcinoma (approximately 2-5%). Colposcopy involves examining the cervix under magnification after application of acetic acid (which turns dysplastic tissue acetowhite) and Lugol's iodine (which stains normal glycogen-containing epithelium dark brown — dysplastic areas fail to stain, appearing yellow). Directed biopsies of suspicious areas provide histologic diagnosis. If CIN 2/3 is confirmed, treatment is excisional (LEEP or cold knife conization) for women desiring future fertility, or ablative therapy for selected cases. HPV vaccination prevents new infections but does not treat existing HPV-related disease.

47. B. Open neural tube defects (anencephaly, spina bifida). Maternal serum alpha-fetoprotein (MSAFP) is a fetal protein produced primarily by the fetal liver and yolk sac. Elevated MSAFP (above 2.5 MoM after confirming gestational dating and excluding multiple gestation) is most commonly associated with open neural tube defects — anencephaly (uniformly lethal) and open spina bifida (myelomeningocele). AFP leaks from the open fetal defect into the amniotic fluid and then into the maternal circulation. Other causes of elevated MSAFP include ventral wall defects (omphalocele, gastroschisis), fetal demise, multiple gestation, incorrect gestational dating, and placental abnormalities. Conversely, low MSAFP is associated with Down syndrome (trisomy 21) and Edwards syndrome (trisomy 18). Follow-up for elevated MSAFP includes targeted ultrasound (level II) to evaluate fetal anatomy and amniocentesis for amniotic fluid AFP and acetylcholinesterase if ultrasound findings are inconclusive.

48. D. Uterine atony. Uterine atony is the most common cause of postpartum hemorrhage (PPH), accounting for approximately 70-80% of cases. PPH is defined as blood loss greater than 500 mL after vaginal delivery or greater than 1,000 mL after cesarean delivery, or any blood loss causing hemodynamic instability. Uterine atony occurs when the myometrium fails to contract and compress the spiral arteries at the placental site after delivery. Risk factors include uterine overdistension (multiple gestation, polyhydramnios, macrosomia), prolonged labor, grand multiparity, chorioamnionitis, and uterotonic medication use. The hallmark is a soft, boggy, enlarged uterus on palpation. Immediate management follows a stepwise approach — bimanual uterine massage (first-line), uterotonic medications (oxytocin,

methylergonovine, carboprost/hemabate, misoprostol), intrauterine balloon tamponade (Bakri balloon), uterine compression sutures (B-Lynch), uterine artery embolization, and hysterectomy as a last resort.

49. A. Phyllodes tumor. Phyllodes tumors are rare fibroepithelial breast neoplasms (accounting for less than 1% of breast tumors) that share clinical features with fibroadenomas but are distinguished by hypercellular stroma, leaf-like (phyllodes) projections of stroma into cyst-like spaces, and stromal overgrowth. They are classified as benign (most common), borderline, or malignant based on stromal cellularity, mitotic activity, stromal overgrowth, and tumor margins. Phyllodes tumors typically present as rapidly growing, firm, well-circumscribed breast masses in women aged 40-50 (older than typical fibroadenoma patients). Core needle biopsy is essential for diagnosis. Treatment is wide local excision with margins of at least 1 cm (negative margins are critical, as local recurrence rates are significant with inadequate margins). Unlike carcinomas, phyllodes tumors do not typically metastasize to axillary lymph nodes, so sentinel node biopsy is not performed. Malignant phyllodes tumors may metastasize hematogenously to the lungs.

50. B. Oral cephalexin, amoxicillin-clavulanate, or nitrofurantoin for 5-7 days. Uncomplicated cystitis in pregnancy requires treatment because untreated bacteriuria and UTIs carry significant risks — progression to pyelonephritis (occurs in 20-30% of untreated pregnant women with bacteriuria), preterm labor, low birth weight, and preeclampsia. Antibiotic selection must balance efficacy against common uropathogens with fetal safety. Safe options in the second trimester include cephalexin, amoxicillin-clavulanate, and nitrofurantoin (avoided in the first trimester due to theoretical teratogenicity concerns and avoided near term due to risk of neonatal hemolytic anemia). Fluoroquinolones (ciprofloxacin, levofloxacin) are contraindicated throughout pregnancy due to fetal cartilage toxicity. Doxycycline is contraindicated due to dental discoloration and bone growth inhibition. TMP-SMX is avoided in the first trimester (folate antagonism, neural tube defect risk) and near term (neonatal kernicterus, hyperbilirubinemia). A test of cure urine culture should be obtained 1-2 weeks after completing treatment.