ANSWERS: CHAPTER 17

MATCHING
1. g 7. d 13. k 19. j
2. l 8. n 14. i 20. f
3. b 9. t 15. r 21. s
4. o 10. x 16. v 22. w
5. u 11. a 17. m 23. p
6. q 12. e 18. h 24. c

IMAGE LABELING
1. cervical cerclage
2. liver
3. portal vein
4. umbilical cord
5. umbilical arteries (to placenta)
6. inferior vena cava
7. descending aorta
8. ductus venosus
9. heart
10. left pulmonary artery
11. aortic arch
12. duc tus arteriosus
13. foramen ovale
14. umbilical vein (from placenta)
15. central insertion
16. battledore insertion
17. velamentous insertion
18. marginal placenta previa
19. partial placenta previa
20. complete placenta previa

MULTIPLE CHOICE
1. c 6. d 11. c 16. a
2. a 7. b 12. a 17. b
3. b 8. a 13. d 18. c
5. c 10. c 15. c 20. d

FILL-IN-THE-BLANK
1. an overly distended urinary bladder
2a. spontaneous abortion
2b. premature delivery
3. muscle
4. decidua
5. cotyledons
6. 4 cm
7. umbilical vein
8. endovaginal
9a. early diastolic notch
9b. systolic-diastolic ratio
10. transperineal
11. 3-D
12a. smoking
12b. low maternal age
12c. parity
12d. season of the year
13a. maternal hypertension, preeclampsia, placental infarction, and IUGR
13b. 2
14a. hydropic placenta
14b. fluid overload
15. normal
16a. no symptoms
16b. acute hemorrhage and shock
16c. rigid abdomen
16d. severe uterine contractions
17a. moving
17b. side
18. decidua basalis
19. subchorionic lakes
20. periphery
21. color Doppler
22a. vein
22b. arteries
22c. Wharton’s jelly
23. true knot
24a. 36
24b. dystocia
25. transversely
26a. serial
26b. growth
27a. dermoids
27b. teratomas
27c. hemangiomas
27d. angiomyxomas
28a. vein
28b. arteries
29. polyhydramnios
30. oligohydramnios

SHORT ANSWER
1. Cells known as trophoblasts, which arise from the implanting conceptus, invade the decidua and are involved in early placental development. The three decidual layers are named according to the specific anatomical relationship to the implanted conceptus: 1. the decidua basalis lies deep to the conceptus and develops into the maternal side of the placenta; 2. the decidua capsularis overlies the conceptus; and 3. the decidua parietalis/vera encompasses all of the remaining decidua.

2. Maternal: 1. Oxygen-rich blood is pumped through spiral arterioles within the decidua basalis. 2. This blood enters the intervillous spaces (sinus) surrounding the villi. 3. Uterine veins return blood from the sinus region. (Gases and nutrients exchange across the walls of the villi, allowing nutrition, respiration, and waste removal to take place.) Fetal: 1. Deoxygenated fetal blood is carried to the placenta by the umbilical arteries. 2. The blood circulates to capillaries in the chorionic villi of the placental lobes. (This results in oxygenated blood within the villous capillaries.) Oxygenated blood returns to the fetus through the umbilical vein.
3. Cystic areas, which are located centrally with the placental lobes, if nonvascular, may represent areas of necrosis.

4. The placenta is where all nutritional, respiratory, and excretory exchanges that ensure fetal growth and development take place and has various metabolic functions, such as synthesizing sugars, and fats, as well as hormones. Maternal disease or vascular abnormalities can affect the size, vascularization, and function of the placenta, and may compromise fetal well-being.

5. Women with increased maternal age, and/or multiple gestations are at increased risk for placenta previas. Previa is more common in patients with previous lower uterine incisional scars, such as from a cesarean section or myomectomy.

**IMAGE EVALUATION/PATHOLOGY**

1. Images A and B demonstrate a shortened cervix with funneling. Image A discloses a funnel width of 2.0 cm and retained cervical length of 2.3 cm. Image B shows cervical dilation at 1.1 cm (averaged) and a retained length of 0.8 cm. The fetal cranium is seen in the images.

2. The image displays echogenic amniotic fluid. The white arrow depicts an anechoic umbilical cord.

3. This sagittal image reveals the midline cervix and lower uterine segment with fetal anatomy. Calipers measure the distance from the distal placental border to the internal os at 3.1 cm. A measurement of 2 cm or greater rules out previa. Note the cervix appears long and closed.

4. Both images demonstrate an accurate placental thickness measurement. When scanning the placenta, the beam should be as perpendicular as possible to the chorionic plate, especially when measuring thickness. Although the desirable measurement is obtain perpendicular to the beam, it is not always possible, so a measurement obtained perpendicular to the uterine wall is correct.

5. Placental abruption is seen depicted by the calipers. This retroplacental hematoma (long arrow) has lifted the placental edge (short arrow). Make note of the hypoechoic appearance of the hematoma in comparison with the placental tissue.

**CASE STUDY**

1. The anterior, palpable lump was determined to be a fibroid adjacent to the placenta. Although contractions can resemble a mass similar to the appearance of a fibroid, this area persisted. Measurements were eventually obtained for future comparison.

2. This is an example of nuchal cord. The umbilical cord is noted to be wrapped around the neck of 36% of fetuses at least once. Multiple looping has been associated with increased incidence of complications, such as shoulder dystocia, decreased fetal breathing, movement, and birth weight. In most cases, however, the cord is loosely looped around the fetal neck, and is clinically insignificant. Color Doppler is more sensitive in detecting nuchal cord than gray-scale imaging.