**ANSWERS: CHAPTER 26**

**MATCHING**

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

**IMAGE LABELING**

1. dizygotic – always 2 ova; monozygote – always 1 ova
2. dizygotic – 2 placentas; monozygotic – placenta number varies depending on time of division of ova, 1 or 2.
3. twin, DC/DA
4. no
5. cephalic/cephalic
6. breech/cephalic
7. breech/breech
8. transverse, head maternal right/breech
9. craniopagus
10. thoracopagus
11. omphalopagus
12. pygopagus
13. parapagus

**MULTIPLE CHOICE**

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

**FILL-IN-THE-BLANK**

1a. 3
1b. delayed childbearing
1c. increased use of ART
2. monozygotic
3. division
4. uterus
5. 70
6. 2 to 3
7a. two
7b. two
7c. two
7d. two
8a. preterm
8b. growth restriction
8c. fetal
9. MZ
10. first
11. yolk
12. twin peak
13. 5
14a. follows
14b. 30
14c. femur
15. vanishing twin
16. high-risk
17a. assisted
17b. reproductive
18. serial reduction
19. monoamniotic
20a. monochorionic
20b. thromboembolic

**SHORT ANSWER**

1. Preterm birth, intrauterine growth restriction (IUGR), fetal anomalies, fetal death, low birth weight, preeclampsia, placental abruption, hypertension, placenta previa, and postpartum hemorrhage.

<table>
<thead>
<tr>
<th>TYPE</th>
<th># Gestational Sacs</th>
<th># Amniotic Cavities</th>
<th># Embryos/Sac</th>
<th># Yolk Sacs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC/DA</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

2.

<table>
<thead>
<tr>
<th>Stage of Zygote Division (days)</th>
<th>MZ Placentation</th>
<th>Approximate Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>DC/DA</td>
<td>25%</td>
</tr>
<tr>
<td>4 to 7</td>
<td>MC/DA</td>
<td>75%</td>
</tr>
<tr>
<td>8 to 13</td>
<td>MC/MA</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>13+</td>
<td>Conjoined Twins</td>
<td>1/50,000 to 1/100,000</td>
</tr>
</tbody>
</table>

4. Two distinct gestational sacs are classified as dichorionic/diamniotic. One gestational sac with more than one fetal pole is monochorionic/diamniotic or monochorionic/monoamniotic, depending on the number of amnions present. A dividing membrane must be located to identify amnionicity.

5. Gender, anomaly, descriptive positional identifiers (right superior transverse, left breech) will identify the twin, especially if correlated as twin A-right superior transverse female or twin B-left breech male.
PART 2 — OBSTETRIC SONOGRAPHY

IMAGE EVALUATION/PATHOLOGY

1. Dichorionic pregnancy

2. The arrow depicts an irregular “sac-like” area consistent with a subchorionic bleed, but may be confused with a second gestational sac. The S labels a single gestational sac containing a yolk sac.

3. Vasa previa is seen. It is defined as fetal vessels overlying the cervical os due to insertion of the umbilical cord into the amniotic membrane rather than the placenta.

4. The twin positioned on the image right is displaying hydrops. It was discovered to be urinary hydrops, which resulted in an abnormal fluid collection within the fetal abdomen. Image B demonstrates both fetuses of this monochorionic/monoamniotic pregnancy. The left fetal abdomen appears normal. Incidentally, this gestation was diagnosed with polyhydramnios.

5. TRAP sequence (twin reversed arterial perfusion sequence) is known as acardiac twinning. The image demonstrates an amorphous acardiac twin, depicted by the letter A. The arrowhead shows the intertwin membrane. One normal twin (pump twin) and one amorphous twin without a well-defined cardiac structure is generally noted.

CASE STUDY

1. If, in fact, this pregnancy continues to advance discordantly, estimated fetal weight percentages that differ by more than 20% will be displayed and the reason for irregular growth will need to be diagnosed. Pulsed Doppler will assist in diagnosing and following growth restriction in the presence of discordance between twins. When twins are diamniotic, the amount of amniotic fluid in each gestational sac should be assessed separately. This is usually easiest accomplished by measuring the maximum vertical pocket (MVP) of fluid in each sac. Cord insertion should be noted to rule out a velamentous cord. Staging may become important in the presence of TTTS. Depending on fetal age, serial reduction amniocentesis, amniotic membrane septostomy, and ablation of the placental anastomoses may be treatment options.

2. A transvaginal ultrasound demonstrates possibly three gestational sacs. This image displays discordancy between the three sacs. Sac C appears much smaller and heterogeneous. Upon further transducer manipulation, it was noted that sac C was an early subchorionic bleed. HCG levels will increase aggressively with a multiple gestation pregnancy as compared to a singleton pregnancy. The elevated hormones will also create nausea and vomiting with susceptible individuals. The pregnancy proceeded to a healthy DC/DA gestation.