LAB MANUAL: 10th Edition

LABORATORY EXERCISE 46
MAJOR ARTERIES AND VEINS

Figure Labels

FIG. 46.1

1. Superior vena cava
2. Pulmonary trunk
3. Inferior vena cava
4. Pulmonary veins
5. Pulmonary artery
6. Aorta

Critical Thinking Application Answer

The left ventricle wall is thicker which provides a more powerful contraction to force the blood through the longer distance of the systemic circuit.

FIG. 46.2

1. Superficial temporal artery
2. Occipital artery
3. Internal carotid artery
4. External carotid artery
5. Vertebral artery
6. Thyrocervical artery
7. Subclavian artery
8. Facial artery
9. Common carotid artery
10. Brachiocephalic artery

FIG. 46.3

1. Subclavian artery
2. Axillary artery
3. Deep brachial artery
4. Brachial artery
5. Radial artery
6. Ulnar artery

FIG. 46.4

1. Celiac artery
2. Hepatic artery
3. Renal artery
4. Splenic artery
5. Left gastric artery
6. Superior mesenteric artery
7. Inferior mesenteric artery
8. Common iliac arteries

FIG. 46.5

1. Right common iliac artery
2. External iliac artery
3. Deep femoral artery
4. Popliteal artery
5. Abdominal aorta
6. Internal iliac artery
7. Femoral artery
8. Anterior tibial artery
9. Dorsalis pedis artery

FIG. 46.6

1. External jugular vein
2. Subclavian vein
3. Internal jugular vein
4. Vertebral vein
5. Brachiocephalic vein

FIG. 46.7

1. Internal jugular vein
2. Axillary vein
3. Cephalic vein
4. External jugular vein
5. Brachiocephalic veins
6. Subclavian vein
7. Superior vena cava
8. Azygos vein

FIG. 46.8

1. Subclavian vein
2. Right brachiocephalic vein
3. Axillary vein
4. Brachial vein
5. Cephalic vein
6. Basilic vein
7. Median cubital vein
8. Radial vein
9. Ulnar vein

FIG. 46.9

1. Hepatic portal vein
2. Superior mesenteric vein
3. Gastric vein (right)
4. Splenic vein
5. Inferior mesenteric vein

FIG. 46.10

1. Common iliac vein
2. External iliac vein
3. Inferior vena cava
4. Internal iliac vein
5. Femoral vein
6. Great saphenous vein
7. Popliteal vein
8. Anterior tibial vein

Laboratory Report Answers

PART A

1. e
2. n
3. l
4. b
5. a
6. h
7. d
8. c
9. i
10. m
11. j
12. f
13. g
14. o
15. k

PART B

1. right subclavian artery
2. aortic arch
3. superior mesenteric artery
4. inferior mesenteric artery
5. right common carotid artery
6. vertebral artery
7. facial artery
8. brachial artery
9. external iliac artery
10. left and right pulmonary arteries

PART C

1. a
2. b
3. d
4. e
5. h
6. c
7. g
8. f

PART D

1. right brachiocephalic vein
2. popliteal vein
3. common iliac vein
4. basilic vein
5. anterior tibial vein
6. femoral vein
7. hepatic portal vein
8. pulmonary veins
9. renal vein

PART E (figure 46.11)

1. Common carotid artery
2. Brachiocephalic vein
3. Superior vena cava
4. Femoral vein
5. Great saphenous vein
6. Internal jugular vein
7. External jugular vein
8. Subclavian artery
9. Subclavian vein
10. Pulmonary vein
11. Inferior vena cava
12. Aorta
13. Common iliac vein
14. Common iliac artery
15. Femoral artery

LABORATORY EXERCISE 47
CAT DISSECTION: CARDIOVASCULAR SYSTEM

Laboratory Report Answers

PART A

1. The parietal pericardium forms a relatively thick, tough sac that encloses the heart. It is attached to the large blood vessels at the base of the heart and to the diaphragm.
2. The walls of the atria are much thinner than those of the ventricles. The wall of the left ventricle is much thicker than that of the right ventricle.
3. Wall thickness is related to the force of its contraction and the amount of pressure it imparts to the blood inside a heart chamber. The left ventricle has the thickest wall, contracts with the greatest force, and creates the greatest amount of blood pressure in the heart chambers. The left ventricle is the pump for the systemic circuit.
4. In the human, the right common carotid artery branches from the brachiocephalic artery, whereas the left common carotid artery comes directly from the aortic arch. In the cat, both common carotid arteries branch from the brachiocephalic artery.
5. In the human, the aorta divides to form the two common iliac arteries, which in turn give rise to external and internal iliac arteries. In the cat, the aorta divides to form the external iliac arteries, and the internal iliac arteries branch from the aorta independently.

PART B

1. In the human, the brachiocephalic vein is formed by the union of the internal jugular and the subclavian vein on each side. In the cat, the brachiocephalic vein is formed by the union of the external jugular and the subclavian vein on each side.
2. In the human, the internal jugular vein is somewhat larger than the external jugular vein. In the cat, the external jugular vein is larger.
3. Answers will vary.