

**STRUCTURAL BASIS OF MEDICAL PRACTICE**

**EXAMINATION 9B**

**September 21, 2006**

Circle the correct answer. (22 points)

1. The picture at the right is an image of:
  - a) Defective right subclavian artery
  - b) Preductal coarctation of the aorta
  - c) Postductal coarctation of the aorta**
  - d) Persistent ductus arteriosus
  - e) Double aortic arch
  
2. The embryonic origin of the ligamentum arteriosum is:
  - a) Second aortic arch
  - b) Third aortic arch
  - c) Fourth aortic arch
  - d) Fifth aortic arch
  - e) Sixth aortic arch**
  
3. Regarding the circulatory system, which of these events does not occur at birth or shortly thereafter?
  - a) Foramen ovale closes
  - b) Pressure in right atrium decreases
  - c) Umbilical arteries dilate**
  - d) Pressure increases in left atrium
  - e) Interarterial septum seals
  
4. Embryonic arch arteries give origin to all but:
  - a) Arch of the aorta
  - b) Common carotids
  - c) Descending aorta**
  - d) Maxillary arteries
  - e) Pulmonary arteries

5. Which pair of embryonic and adult structures is **incorrect**?
- a) Umbilical vein – ligamentum teres hepatis
  - b) Umbilical artery – medial umbilical ligament
  - c) Ductus venosus – ligamentum venosum
  - d) Ductus arteriosus – ligamentum arteriosum
  - e) **Brachiocephalic vein – aortic sac**
6. Which pair of embryonic and adult structures is **incorrect**?
- a) Right vitelline vein – inferior vena cava
  - b) Right posterior cardinal vein – common iliac vein
  - c) Left vitelline vein – liver sinusoids
  - d) **Left posterior cardinal vein – superior vena cava**
  - e) Left sinus horn – coronary sinus
7. Identify the structure indicated by the arrow in the picture:
- a) Left posterior cardinal vein
  - b) Left common cardinal vein
  - c) Left supracardinal vein
  - d) **Left subcardinal vein**
  - e) Left subsupracardinal anastomosis
8. Mesonephric ducts in the male give rise to all but:
- a) Epididymis
  - b) Ductus deferens
  - c) **Rete testis**
  - d) Ejaculatory duct
  - e) Seminal glands
9. Ureteric bud tissue in the male gives rise to the:
- a) **Renal pelvis**
  - b) Ductus deferens
  - c) Seminal vesicles
  - d) Seminiferous tubules
  - e) Ductus epididymis

10. Which structure does not arise from the urogenital sinus?
- a) Penile urethra
  - b) Urinary bladder
  - c) Prostate urethra
  - d) Uterus**
  - e) Bulbourethral glands
11. Metanephric diverticulum gives rise to all but the:
- a) Renal pelvis
  - b) Ureter
  - c) Calyces
  - d) Collecting tubules
  - e) Bladder**
12. Paramesonephric ducts are not associated with the:
- a) Oviducts
  - b) Vagina (upper portion)
  - c) Prostatic utricle
  - d) Testis (appendix portion)**
13. The definitive kidney is derived from the:
- a) Pronephros
  - b) Mesonephros
  - c) Metanephros**
  - d) Supranephros
  - e) Urogenital ridge
14. Exstrophy of the bladder is often associated with:
- a) Adrenal hyperplasia
  - b) Urachal fistula
  - c) Hypospadias
  - d) Epispadias**
  - e) Oligohydramnios

15. Meckel's diverticulum is associated with the:
- a) Urachus
  - b) Ligament of Treitz
  - c) Vitelline duct**
  - d) Hepatic duct
  - e) Gastric luminal epithelium
16. Regarding development of the GI system, which statement is **incorrect**?
- a) Midgut exhibits a 270° rotation counterclockwise
  - b) Stomach rotates 90° clockwise
  - c) Rotation of stomach allows for the greater curvature to face right and superior**
  - d) Following rotation, the descending colon is retroperitoneal
  - e) The appendix lies in a retrocecal position
17. Embryonic foregut differentiates into all but the:
- a) Liver
  - b) Esophagus
  - c) Spleen**
  - d) Stomach
  - e) Pancreas
18. Hirschsprung's Disease is a disorder related to:
- a) Parasympathetic ganglia**
  - b) Sympathetic ganglia
  - c) Incomplete intestinal looping
  - d) Perforation of the abdominal cavity wall
  - e) Superior mesenteric artery
19. Which statement is **incorrect** regarding development of the gut?
- a) The urorectal fold divides the cloaca
  - b) The pancreas receives blood from the celiac trunk
  - c) Rotation of the stomach results in the left vagal trunk innervating the anterior wall
  - d) The transverse colon is retroperitoneal**
  - e) The spleen is intraperitoneal

20. Regarding development of the gut, which statement is **correct**?
- a) Stenosis of the gut frequently occurs in the large intestine
  - b) An omphalocele most likely occurs in the 8-9<sup>th</sup> month
  - c) An annular pancreas results from hyperproliferation of the head of the pancreas
  - d) The gall bladder is derived from the hindgut
  - e) **Twisting and knotting of the intestinal loop is termed volvulus**
21. Which developmental structure-vasculature pair is **incorrect**?
- a) Gall bladder – Celiac artery
  - b) Jejunum – Superior mesenteric artery
  - c) Ascending colon - Superior mesenteric artery
  - d) Rectum – Inferior mesenteric artery
  - e) **Descending colon – Superior mesenteric artery**
22. Failure of the interstitial loops to return to the abdominal cavity results in:
- a) Pyloric stenosis
  - b) Duodenal atresia
  - c) Stenosis of the large bowel
  - d) **Omphalocele**
  - e) Polydramnios