

1. A 50-year-old male presents with headaches, vomiting, and weakness of his left side. Physical examination reveals his right eye to be pointing "down and out" along with ptosis of his right eyelid. His right pupil is fixed and dilated and does not respond to accommodation. Marked weakness is found in his left arm and leg. Swelling of the optic disk (papilledema) is found during examination of his retina. Which one of the following is most likely present in this individual?

- a. Aneurysm of the vertebasilar artery
- b. Arteriovenous malformation involving the anterior cerebral artery
- c. Subfalcine herniation
- d. Tonsillar herniation
- e. Uncal herniation

2. An 18-year-old male high school baseball player gets hit in the head with a fastball in the temporal area. He does not lose consciousness, but afterward develops a slight headache. He is not taken to the emergency room. By evening he develops severe headache with vomiting and confusion. At that time he is taken to the emergency room, where, after being examined by a neurosurgeon, he is taken to the operating room for immediate surgery for an epidural hematoma. Which one of the following is most likely present in this individual?

- a. Transection of a branch of the middle meningeal artery
- b. Bleeding from torn bridging veins
- c. Rupture of a preexisting berry aneurysm
- d. Rupture of an arteriovenous malformation
- e. Cortical bleeding occurring opposite the point of a traumatic injury

3. Rupture of a berry aneurysm of the Circle of Willis would likely produce hemorrhage into the

- a. Epidural space
- b. Cerebellum
- c. Subarachnoid space
- d. Subdural space
- e. Thalamus

4. Laminar necrosis and watershed infarcts are most suggestive of

- a. Shock
- b. Hypertension
- c. Fat emboli
- d. Vascular thrombosis
- e. Venous sinus thrombosis

5. Hypertension is most closely related to the formation of which one of the following types of aneurysms?

- a. Berry aneurysm
- b. Atherosclerotic aneurysm
- c. Mycotic aneurysm
- d. Charcot-Bouchard aneurysm
- e. Saccular aneurysm

6. After recovering from a viral respiratory tract infection, a 23-year-old female presents with weakness in her distal extremities that rapidly ascends to involve proximal muscles. Physical examination reveals absent deep tendon reflexes, and a lumbar puncture reveals the CSF protein to be increased, but very few cells are present. A biopsy of a peripheral nerve reveals inflammation and demyelination (radiculoneuropathy). What is the best diagnosis?

- a. Brown-Séquard's syndrome
- b. Charcot-Marie-Tooth disease
- c. Diabetes mellitus
- d. Guillain-Barré syndrome
- e. Syringomyelia

7. Bilateral loss of pain and temperature sensations in both arms that spares the sense of touch and position is most suggestive of

- a. A syrinx involving the ventral white commissure of the cervicothoracic region
- b. A transection of the cord in the upper cervical region
- c. Compression of the dorsal roots of the cervicothoracic portion of the cord

- d. Hemisection of the anterior half of the spinal cord in the upper cervical region
- e. Hemisection of the dorsal half of the spinal cord in the upper cervical region

## Answers

1.E

2.A

3.C

4.A

5.D

6.D

7.A

