The questions in this chapter constitute a review of the following chapters in *Family Medicine: Principles and Practice*, Fifth Edition:

- Anemia (Chapter 125)
- Selected Disorders of the Blood and Hematopoietic System (Chapter 126)

**DIRECTIONS (Items 26.1 through 26.14):** Each of the questions or incomplete statements in this section is followed by five suggested answers or completions. Select the ONE that is BEST in each case.

26.1 The patient is a 42-year-old attorney with symptoms of fatigue, weakness, and decreased exercise tolerance. Examination reveals a mild anemia with a hemoglobin of 11.2 g/dl. The most likely cause of his anemia is

- (A) dietary deficiency of iron
- (B) gastrointestinal (GI) bleeding
- (C) renal disease
- (D) hemolysis
- (E) cancer

**Answer:** (B). GI blood loss is probably the most frequent cause of anemia in adults and is an important area to investigate. Chronic medical conditions such as hepatic, renal, endocrine, and inflammatory diseases can lead to anemia, as can malignancies and infections. (Chapter 125, Page 1108.)

26.2 The normal reticulocyte count, reported as reticulocytes/100 red blood cells (RBC) is about

- (A) 1%
- (B) 5%
- (C) 10%
- (D) 15%
- (E) 20%

**Answer:** (A). Reticulocytes are newly formed RBCs. A new RBC remains a reticulocyte for 1.0 to 1.5 days, after which the RBC circulates for about 120 days. Thus, the blood normally contains about 1 reticulocyte/100 RBCs. The reticulocyte count is usually reported as reticulocytes per 100 RBCs (a percentage). (Chapter 125, Page 1109.)

26.3 For women, the recommended dietary allowance (RDA) for iron is

- (A) 1 mg/day
- (B) 15 mg/day
- (C) 100 mg/day
- (D) 300 mg/day
- (E) 1,000 mg/day

**Answer:** (B). Iron deficiency anemia (IDA) is probably the most common cause of anemia in the United States. The RDA for iron is 10 mg/day for men and 15 mg/day for women. Meats, eggs, vegetables, legumes, and cereals are principal sources of iron in the American diet. (Chapter 125, Page 1109.)

26.4 Beta-thalassemia trait can be diagnosed by

- (A) examination of radiographs of the wrists
- (B) hemoglobin electrophoresis
- (C) detection of elliptocytes on the peripheral blood smear
- (D) detection of Howell-Jolly bodies on the peripheral blood smear
- (E) careful history and physical examination

Answer: (B). Beta-thalassemia trait can be diagnosed by hemoglobin electrophoresis with elevated levels of hemoglobins A2 and occasionally F. With alpha-thalassemia trait, the hemoglobin electrophoresis is normal, and diagnosis is usually made by exclusion, although precise molecular analysis is available. (Chapter 125, Pages 1110–1111.)

26.5 Which of the following is a sensitive and specific sign of megaloblastic anemia?

(A) spherocytes
(B) neutrophil hypersegmentation
(C) target cells
(D) burr cells
(E) Heinz bodies

Answer: (B). A sensitive specific sign of megaloblastic anemia is neutrophil hypersegmentation, which represents a disorder of DNA synthesis of erythrocyte precursors. (Chapter 125, Page 1114.)

26.6 Classic pernicious anemia is caused by

(A) hypervitaminosis
(B) inadequate dietary intake of vitamin B₁₂
(C) gastric mucosal atrophy
(D) interference of vitamin B₁₂ absorption caused by excessive use of antacids
(E) peptic ulcer disease

Answer: (C). Pernicious anemia results from atrophy of the gastric mucosa leading to cessation of intrinsic factor secretion. Others at risk for vitamin B₁₂ deficiency anemia include patients who have gastric and ileal surgeries and those with ileal absorption disorders, such as Crohn’s disease, sprue, or tapeworm infection. (Chapter 125, Page 1114.)

26.7 Hemophilia A is an autosomal recessive X-linked deficiency of

(A) factor III
(B) factor IV
(C) factor V
(D) factor VIII
(E) thromboplastin

Answer: (D). Hemophilia A is an autosomal recessive X-linked deficiency of factor VIII. (Chapter 126, Page 1116.)

26.8 von Willebrand’s disease (vWD) is inherited in which of the following patterns?

(A) an X-linked recessive
(B) an autosomal dominant
(C) an X-linked dominant pattern with females as asymptomatic carriers
(D) an autosomal recessive with incomplete penetrance
(E) a genetic mutation with sporadic expression

Answer: (B). vWD is an inherited hemorrhagic disorder characterized by deficiency of von Willebrand factor (vWF). vWF is necessary for normal interaction of platelets with vessel walls. vWD is inherited in an autosomal dominant pattern, with males and females equally affected. (Chapter 126, Page 1117.)

26.9 The patient is a 6-year-old boy who had scattered petechiae which led to a diagnosis of idiopathic thrombocytopenia purpura (ITP). The petechiae have now subsided, and his platelet count is 50,000/mm³. Which of the following is the appropriate treatment for this patient?

(A) immunosuppressive agents
(B) gamma-globulin
(C) splenectomy
(D) corticosteroids
(E) observation

Answer: (E). Treatment is unnecessary in patients with mild thrombocytopenia and is reserved for the patient who is bleeding because of thrombocytopenia or whose platelet count is less than 20,000/mm³. The goal of therapy is to stop the bleeding and return the platelet count to more than 20,000/mm³. (Chapter 126, Page 1118.)

26.10 The patient is an 8-year-old white boy recently treated in the emergency department for otitis media with a sulfonamide preparation. Now, 1 week later, the patient has a macular rash on the arms, legs, and buttocks, with a few areas of purpura. Urine analysis shows some blood cells and protein in the urine. This patient appears to have

(A) vWD
(B) hemophilia B
(C) folate deficiency
(D) ITP
(E) Henoch-Schönlein purpura (HSP)

Answer: (E). HSP (allergic purpura) primarily affects the kidneys, GI tract, and joints. The etiology is unknown. HSP has been seen after viral and streptococcal infections. Drugs (sulfonamides and penicillin) have