**Prep Work for AHD September 12, 2023.**

1. A 38-year-old woman is evaluated 1 week before elective cholecystectomy. Medical history is significant for hemoglobin SS sickle cell disease with approximately one or two vaso-occlusive pain events annually, which are managed in the outpatient setting. Medications are folic acid and oxycodone as needed during pain events.

Laboratory studies show a hemoglobin level of 7.9 g/dL.

**Which of the following is the most appropriate perioperative management?**

1. Postoperative simple transfusion; target hemoglobin 10 g/dL
2. Preoperative hydroxyurea
3. Preoperative exchange transfusion; target hemoglobin S < 30%
4. Preoperative simple transfusion; target hemoglobin 10 g/dL
5. A 32-year-old man is evaluated in the Emergency Department for 1-week history of fatigue, low-grade fever, bruising, and epistaxis. He has no other medical problems and he takes no medications.

On PE, temperature is 37.8 C, (100.0 F), blood pressure is 120/65 mm Hg, pulse rate is 108/min, and respiration rate is 22/min. Pallor is noted. Dried blood is present in the nares. Multiple bruises are seen on his extremities, and he has petechiae at his ankles.

**Laboratory studies:**

Activated partial thromboplastin time (aPTT) = 38 seconds

Prothrombin time (PT) = 25 seconds

D-dimer = 2.5ug/mL

Hematocrit = 22%

Leukocyte count = 2300/uL

Platelet count = 22,000/uL

Albumin= 3.5 g/dL

Alanine aminotransferase = 30 U/L

Aspartate aminotransferase = 35 U/L

Bilirubin, tota l= 0.9 mg/dL

Fibrinogen = 60 mg/dL

**Which of the following is the most likely diagnosis?**

1. Aplastic anemia
2. Coagulopathy of liver disease
3. Disseminated intravascular coagulation (DIC)
4. Thrombotic thrombocytopenic purpura (TTP)
5. A 55-year-old man is hospitalized for confusion and abdominal pain. Medical history is notable for alcohol-related liver disease. He takes lactulose and spironolactone.

On PE, the patient is somnolent but arousable. Temperature is 37.7 C, (99.9 F), blood pressure is 90/50 mm Hg, pulse rate is 110/min, and respiration rate Is 17/min. Ecchymoses are noted on the upper and lower extremities. Ascites is present, and the abdomen is diffusely tender on palpation.

**Laboratory studies:**

Activated partial thromboplastin time (aPTT) = 35 seconds

D-dimer = 0.7 ug/mL

Hemoglobin = 9.4 g/dL

Leukocyte count = 12,000/uL

Platelet count = 68,000/uL

Prothrombin time = 17 seconds

Fibrinogen = 80 mg/dL

Abdominal ultrasonography demonstrates a nodular appearance of the liver, moderate splenomegaly, and a large amount of ascites. Paracentesis confirms a diagnosis of spontaneous bacterial peritonitis, and treatment is initiated.

**Which of the following tests will be most helpful in the evaluation of the patient’s coagulopathy?**

1. Factor II level
2. Factor VIII level
3. Factor X level
4. Thrombin time
5. You have a patient who comes to see you as a new patient in clinic. He has a normocytic anemia, a chronically elevated creatinine, and mild hypercalcemia. You are considering the diagnosis of multiple myeloma. Describe the appropriate studies to order as the initial workup for patients in whom the diagnosis of multiple myeloma is considered.
6. Describe the clinical syndromes (illness scripts) that are classic for polycythemia vera, essential thrombocytosis, chronic myelogenous leukemia, and myelofibrosis.
7. Describe the pathophysiology of the following five transfusion reactions: 1. acute hemolytic transfusion reaction 2. delayed hemolytic transfusion reaction 3. transfusion associated circulatory overload (TACO), 4. transfusion related acute lung injury (TRALI) and 5. febrile non-hemolytic transfusion reactions.