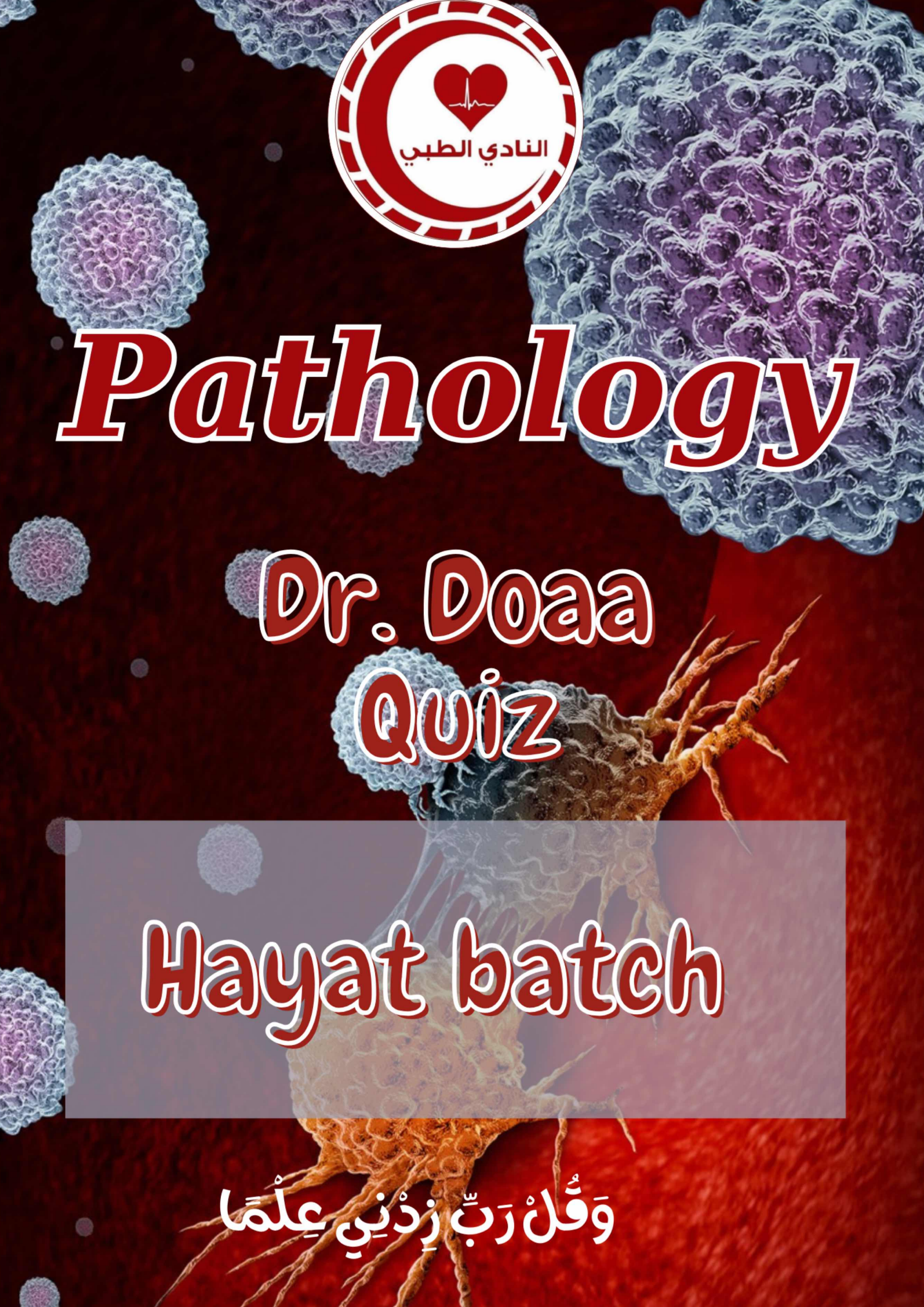
النادي الطبي
Pathology
Dr. Doaa
Quiz
Hayat batch
وَقُلْ رَبِّ زِدْنِي عِلْمًا

Pathology Quiz.

1. A 76-year-old male patient is hospitalized for lung cancer treatment. Upon examination, he appeared tachycardic and pale. His labs show low Hgb 9 g/dL, low MCV 65, normal WBC and platelet count.
His serum iron is low, TIBC is low, and ferritin is high. Serum unconjugated bilirubin, LDH, and haptoglobin are normal. One of the following statements is TRUE regarding his underlying anemia:

A. This patient has depleted stores of iron in the macrophages
B. Erythropoietin production is increased due to IL-1b and TNFα
C. Treating with exogenous erythropoietin is helpful in this patient
D. Hepcidin increases iron absorption from the gastrointestinal tract
E. Erythropoietin is increased due to anemia with increased erythropoiesis

2. Regarding iron deficiency anemia, all the following statements are true, EXCEPT:

A. Etiology includes malnutrition, malabsorption, menorrhagia, and peptic ulcer disease
B. Iron studies show low serum, low Ferritin, low iron saturation, and high TIBC
C. Patients can develop koilonychia, glossitis, angular stomatitis, and pica
D. 10-20% of patients have malignancy, and up to 50% have peptic ulcer disease (PUD)
E. Peripheral smear show pancytopenia with hypersegmented neutrophils

3. A 15-year-old healthy boy presented to the clinic with his parents for a routine workup. The boy has no complaints and no symptoms. His CBC showed low Hgb 10.6 g/dL and low MCV.
HbA2 was elevated. Iron studies, including TIBC, ferritin, iron saturation and serum iron, are normal. A peripheral blood smear revealed microcytic hypochromic anemia with target cells. What statement best describes his underlying condition:

A. His findings are considered normal for his age and gender
B. This is β-Thalassemia minor; it is fatal, transfusion is needed
C. This is β-Thalassemia minor; no further treatment is needed
D. The patient needs to be assessed for chronic blood loss
E. Treat with iron supplementation regardless of iron levels

4. One of the following statements is TRUE regarding sickle cell disease:

A. Sickling decreases with hypoxemia, dehydration, and acidosis
B. Inflammation slows the blood circulation, thus decreasing the degree of sickling
C. HbF protects against sickling, as kids are protected for the first few months of life
D. There is an increased risk of infections, mainly to viruses such as EBV and CMV

Ans: 1-C 2- E 3- C 4- C

5. A 43-year-old female patient, a known case of SLE, presented with pallor and generalized weakness. Her CBC revealed pancytopenia with a low reticulocyte count (< 30 x 109/L). Serum levels for vitamin B12 and folic acid are normal. Her bone marrow biopsy is most likely to show:

A. Hypercellular marrow with erythroid hyperplasia. Megakaryocytes are reduced in number
B. Markedly hypocellular marrow (cellularity < 5%) with lacunar spaces replaced by fibrosis
C. Markedly hypocellular marrow (cellularity < 5%) with neoplasia replacing the lacunar spaces
D. Hypercellular marrow with giant metamyelocytes and hypersegmented neutrophils
E. Markedly hypocellular marrow (cellularity < 5%) with lacunar spaces replaced by fatty cells

6. One of the following conditions is an example of intravascular hemolysis:
A. Hemoglobinopathies - sickle cell disease
B. Paroxysmal nocturnal Hemoglobinuria
C. Immune-mediated hemolytic anemia
D. β-Thalassemia major
E. Hereditary spherocytosis

7. In patients with extravascular hemolysis, the classical laboratory findings are:
A. Hemoglobinemia, hemoglobinuria, and hemosiderinuria, and low reticulocyte count
B. Unconjugated hyperbilirubinemia, hemoglobinemia, and low haptoglobin
C. Unconjugated hyperbilirubinemia, high LDH, and normal haptoglobin
D. Unconjugated hyperbilirubinemia, low reticulocyte count, low haptoglobin
E. Unconjugated hyperbilirubinemia, hemosiderinuria, and normal haptoglobin

8. A 7-year-old male patient presented acutely with jaundice, pallor, and dark urine. Laboratory findings showed normochromic normocytic anemia, unconjugated hyperbilirubinemia, high LDH, and normal haptoglobin. There is no hemoglobinemia, hemoglobinuria, or hemosiderinuria. In addition, peripheral blood smear revealed the presence of Bite cells and Heinz bodies. Thus, the most likely diagnosis is:

A. G6PD-deficiency
B. Thalassemia
C. Paroxysmal nocturnal Hemoglobinuria
D. Thrombotic thrombocytopenic purpura
E. Hemolytic Uremic Syndrome

Ans: 5- E 6- B 7- C 8- A

9. An 8-year-old male patient presented with pallor and acute renal failure.
On examination, the patient showed petechiae and purpuric rash, with no associated fever or neurological symptoms. Laboratory test: CBC: low Hgb (9.2 g/dL), low platelets <30x103/µl. Increase indirect bilirubin, decreased haptoglobin, hemoglobinemia, and hemosiderinuria — also, normal PT, PTT, and D-Dimer but elevated BT (bleeding time).
To best next step in management is to ask the patient:

A. Is there any family history of bleeding?
B. Did he eat fava beans?
C. Is there a history of bloody diarrhea?
D. Does he have associated hemarthrosis?
E. Does his symptoms occur at night?

10. One of the following statements best describes Bernard Soulier syndrome:
A. It's an autosomal dominant disorder
B. Marked decrease in platelet counts 40x103/µl
C. Quantitative defect with reduced vWF & factor VIII D. Failure to aggregate in response to ADP
E. Characterized by deficiency of GpIb/IX (CD42)

Ans: 9-C 10-E