What's Wrong With This Picture?

Diagnostic Images, Treatment Issues

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Young Woman With Abdominal Pain and Anemia

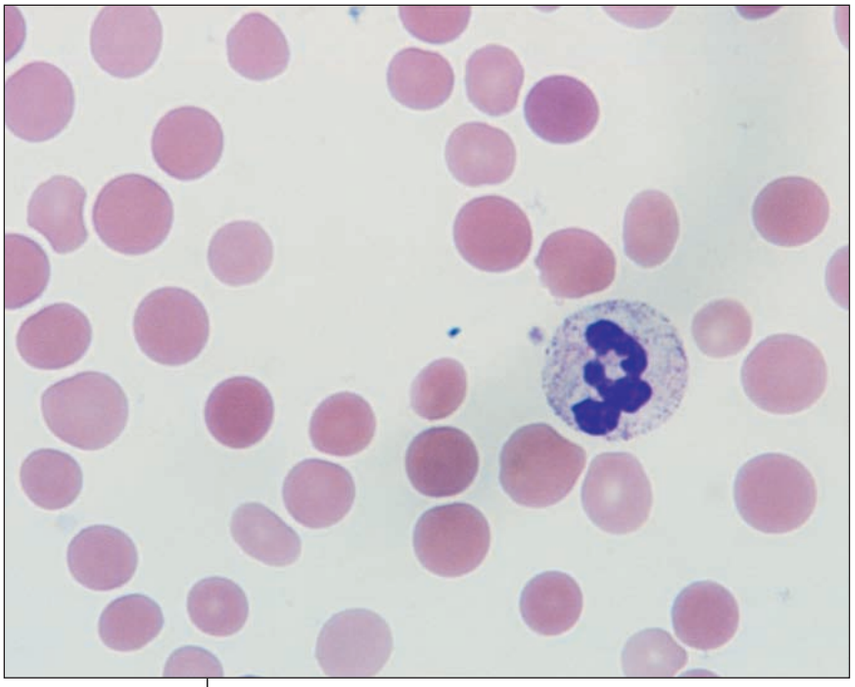
A 27-year-old woman with a 2-day history of nausea, vomiting, and postprandial abdominal pain is admitted to the hospital. Acute cholecystitis is suspected.

History. During a hospitalization for an asthma exacerbation 2 years earlier, the patient was told she had mild anemia; this had resolved by the time of a follow-up visit months later. During that hospitalization, she was also told that her potassium level was elevated, but it normalized spontaneously. Her only current medication is albuterol, which she uses as needed. Her sister and mother had "some liver problem," about which she does not have further information.

Physical examination. The patient appears in moderate distress; she is afebrile. Blood pressure is 100/60 mm Hg; heart rate is 72 beats per minute. Pertinent physical findings include scleral icterus, right upper quadrant tenderness to palpation, and a spleen tip palpable 3 cm below the left costal margin.

Laboratory studies. Total bilirubin is 6.4 mg/dL (normal, less than 1.3 mg/dL); direct bilirubin, 2.2 mg/dL (normal, 0 to 0.4 mg/dL); alkaline phosphatase, 278 U/L (normal, 38 to 110 U/L). The hemoglobin level fell overnight from 12.4 g/dL to 9.8 g/dL. Further evaluation of the patient's anemia reveals a mean corpuscular volume of 85 fL, a red blood cell distribution width (RDW) of 24% (normal, 11% to 16%), and a mean corpuscular hemoglobin concentration (MCHC) of 36 g/dL (normal, 31 to 37 g/dL).

Additional laboratory findings include a reticulocyte count of 9.9%; serum haptoglobin, 24 mg/dL (normal, 26 to 226 mg/dL); and plasma lactate dehydrogenase, 205 mg/dL (normal, 94 to 200 mg/dL). The result of a Coombs test was negative. A sonogram of the abdomen



confirms splenomegaly and reveals gallbladder sludge without cholecystitis. The patient's peripheral blood smear is shown here.

What diagnosis do the clinical history and peripheral smear suggest?

A. Malaria

B. Glucose-6-phosphate dehydrogenase deficiency

C. Hereditary spherocytosis

D. Disseminated intravascular coagulation

E. Thrombotic thrombocytopenic purpura

(Answers and discussion on the next page.)

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