History

A 15-month-old boy presented with high-grade fever, abdominal distention and pallor of two weeks' duration. The past medical history, review of systems, and family history were unremarkable. The child had not received blood transfusions prior to the onset of this illness. He traveled to Taif, in the Western part of Saudi Arabia, one week prior to the onset of his symptoms. On physical examination, he was pale and sick-looking. His temperature was 39°C; vital signs were normal. He had hepatomegaly and marked splenomegaly, but the rest of the examination was within normal limits. Laboratory findings were as follows: white blood cell count 5.7 x 10^9/L (20% polymorphonuclear cells, 13% bands and 55% lymphocytes); hemoglobin 66 g/L; platelet count 20 x 10^9/L; blood smears for malaria were negative; alanine serum transferase 71 IU/L (normal: 10-45 IU/L), alanine aminotransferase 108 IU/L (normal: 10-50 IU/L), alkaline phosphatase 846 IU/L (normal: 60-350 IU/L); prothrombin time 15.3 second (normal: 10-13.3 sec.) and partial thromboplastin time 38.1 sec. (normal: 25-34 sec.); serum triglycerides 5.8 mmol/L (normal: 0.4-1.8 mmol/L); serum ferritin 955 (normal: 22-322 μg/L); serology for cytomegalovirus, Epstein-Barr virus, hepatitis B and C viruses, human immunodeficiency virus, toxoplasma, leishmania, and schistosoma were negative; quantitative immunoglobulins were normal. Culture of the blood, bone marrow, and urine did not reveal any pathogens. Bone marrow aspirate was performed and the smear is shown in the above picture.

1. What abnormality can be seen?
2. What is the differential diagnosis?
3. How is the diagnosis confirmed?