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Sickle cell trait at high altitude

Dear Editor,

Sickle cell anemia (SCA) is one of the common hemoglobinopathies in the world. It can affect any part of the body and one of the most common and an early organ to be affected in SCA is the spleen. Massive splenic infarction which is arbitrarily defined as infarction involving more than 50% of the spleen size is a rare and unique complication of SCA.[1] In sickle cell trait, large splenic infarcts in the normal sized spleen were reported following exposure to hypoxia during high altitude flights in an unpressurized air planes or during mountain climbing.[2,3]

Herein, we present a case of sickle cell trait associated with splenic infarction after mountain climbing. An 18-year-old male presented to our emergency department because of severe left upper quadrant pain and fever after mountain climbing. There was no history of similar pain before. In Physical examination, conjunctiva was pale and oral temperature was 38.1°C. Para clinic tests revealed thrombocytopenia, high serum lactate dehydrogenase (LDH) level and mild elevation in aspartate aminotransferase (AST) and bilirubin. A contrast-enhanced computed tomography (CT) scans of the abdomen and pelvis were consistent with

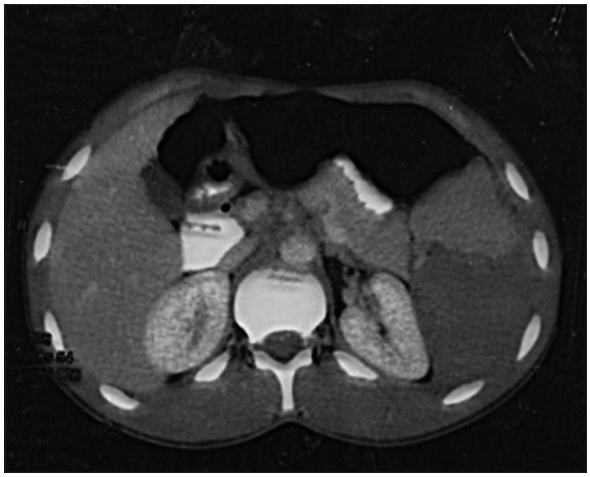

Figure 1: A contrast enhanced computed tomography (CT) scan of the abdomen and pelvis was consistent with splenic infarction

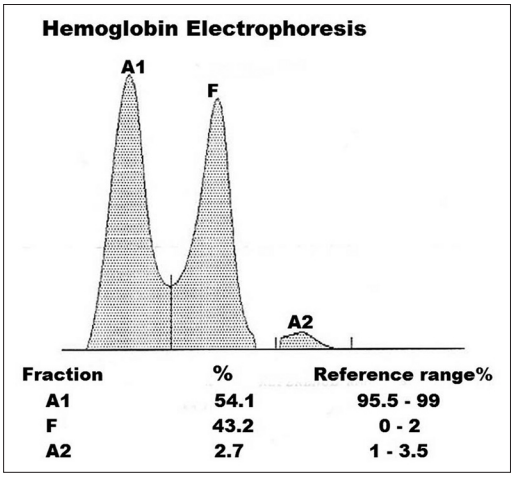

Figure 2: Hemoglobin electrophoresis was consistent with sickle cell trait

splenic infarction [Figure 1]. According to history of pain after mountain climbing and splenic infarction, SCA was the most probable diagnosis. Hemoglobin electrophoresis and gene analysis were consistent with sickle cell trait [Figure 2]. Treatment with nasal oxygen and hydration was started. Sever pain was controlled with opioid analgesics and was relieved gradually without any complication such as splenetic bleeding or rupture. Splenic infarcts had resolved gradually, without any specific treatment or surgical intervention.

In conclusion, physicians should consider splenic infarction in patients who develop suspicious symptoms after exposure to a high altitude environment. These patients could respond well to supportive management, and splenectomy would be avoided.

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