Dear Sir,

Haemoglobin S (HbS) results from the substitution of valine for glutamic acid at position 6 in the beta-globin gene. Unlike patients with HbSS Sickle Cell Disease (SCD – mutation in both beta-globin genes), individuals with Sickle Cell Trait (SCT) are “carriers” having this mutation in just one beta-globin gene with haemoglobin electrophoresis findings in SCT showing HbS levels of 30-45%. Unlike SCD, which is a chronic illness characterised by anaemia, vaso-occlusive crises, infection, increased risk of stroke and cardiorespiratory complications, SCT is benign and only rarely associated with morbidity. However, reports exist of SCT-patients developing acute vaso-occlusive episodes in the setting of dehydration or reduced oxygen tension which increase the risk of sickling in erythrocytes. Here, we present a case of a young man with SCT who developed acute splenic infarction following air travel.

A 24-year old Sudanese gentleman with known SCT presented with a 2-day history of severe left upper quadrant (LUQ) abdominal pain. The pain developed suddenly upon landing in Ethiopia following a 2-hour flight from Sudan before he travelled onwards to Dublin. At presentation, he was normotensive and apyrexial whilst abdominal examination revealed epigastric tenderness, mild distension but no splenomegaly. Full blood count demonstrated; haemoglobin 15.7g/dl, white cell count 7.75 x10⁹/L, and thrombocytopaenia (93 x10⁹/L). C-Reactive Protein was elevated (181 mg/dL), whilst renal and liver function were normal. Haemoglobin electrophoresis was consistent with SCT (HbS 39%). Following admission, intravenous Piperacillin-Tazobactam was commenced in response to pyrexia (39.1°C), tachycardia (120beats/min) and a rising CRP (315mg/dL). Computed tomography (CT) scan of abdomen revealed a large rim of hypoattenuation along the posterior aspect of the spleen consistent with an area of infarction. He received conservative treatment with antimicrobials, intravenous fluids, morphine-based analgesia and low-molecular weight heparin thromboprophylaxis. His symptoms improved gradually over 6 days at which point he was discharged.

Here we report the rare occurrence of splenic infarction in a young man with SCT following air travel at high-altitude. Such cases can present acutely with severe abdominal pain and therefore it is important that Irish physicians are familiar with this rare but highly treatable complication of SCT. Several reports exist of splenic infarction in SCT-patients exposed to low oxygen tension during air travel and also during exercise at high altitude (e.g. skiing/mountaineering). Goodman et al described a case series of 25 SCT patients with splenic infarction and all patients had LUQ pain whilst vomiting and fever were present in 56% and 44% respectively. Palpable splenomegaly was evident in just 32% and 24% had reduced oxygen saturation. The vast majority of such cases appear to fully resolve with conservative...
management with splenectomy not indicated unless other complications develop (rupture, haemorrhage)\textsuperscript{1,4}. Interestingly, nearly all SCT-patients developing splenic infarction are male, perhaps explained by the higher erythrocyte count in males\textsuperscript{1,4}. In summary, we present the case of a young Sudanese man with SCT with splenic infarction which fully resolved with conservative management. Irish health care professionals should be aware of this potential complication of SCT to ensure optimal outcomes.

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References