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## IMAGES IN CLINICAL MEDICINE

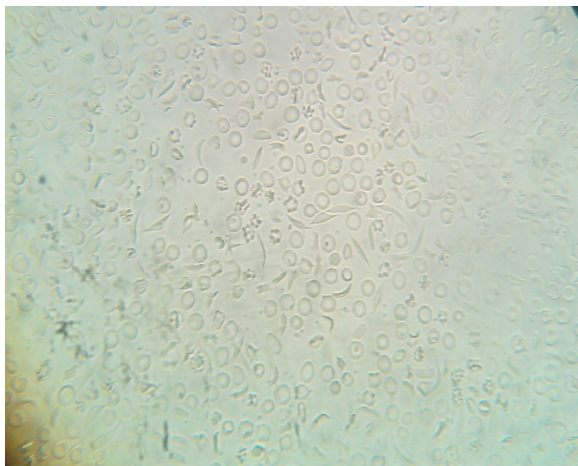


Figure 1. Positive Sodium metabisulfite test.

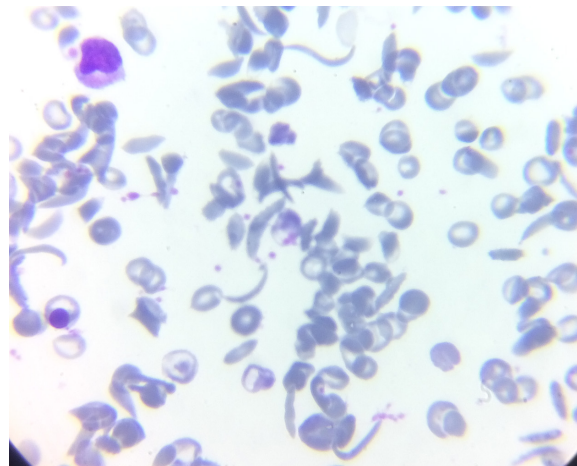


Figure 2. Peripheral blood smear of the patient: prominent Sickle erythrocytes

### PERIPHERAL BLOOD PICTURE OF SICKLE CELL ANEMIA

Laboratory diagnosis of sickle cell anemia involves phenotypic testing for the presence of the sickle haemoglobin and genetic analysis. Phenotypic tests include sickling test and sickle solubility test. Sickle cell anemia can be diagnosed by the presence of sickle cells (drepanocytes) in the peripheral blood film with direct microscopic examination.

A 28 years old female from district Tank, Pakistan presented with history of severe body pains, joints pains and dyspnea. On physical examination anemia and jaundice were observed. Complete blood count revealed the followings haemoglobin 6.8 g/dl, total leucocytes count  $13.4 \times 10^9/L$ , platelet count  $312 \times 10^9/L$ , mean cell volume (MCV) 77.2fl, red cell distribution width (RDW) 26 %, packed cell volume (PCV) 20.4 %, mean cell haemoglobin (MCH) 21.5 pg, mean cell haemoglobin concentration (MCHC) 32.5 g/dl. High reticulocyte count and nucleated RBCs also noted 22%, 40 per 100 WBCs respectively. Her serum direct, total bilirubin and LDH level were also high. Sodium metabisulfite test was also positive showing sickle cells (Figure 1). Cellulose acetate haemoglobin electrophoresis was noted 98 % for HbS and peripheral blood film showed significant numbers of sickle cells (Figure 2).

Peripheral blood film is an easy, inexpensive and less time consuming test therefore it can also be used as primary tool to diagnose sickle cell disease. However for sickle cell trait, sickling test & Hb electrophoresis is mandatory.

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