Case Pictorial

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Chronic Myelogenous Leukemia in a Patient of Sickle Cell Anemia: A Rare Case Report

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Hematologic malignancies in patient with sickle cell anemia are rare. Very few cases have been reported worldwide.[1,2] This is the first case report on sickle cell anemia with chronic granulocytic leukemia which comes to our knowledge in the region of Chhattisgarh.

A 30-year-old female reported to the medical ward complaining of a huge lump in the abdomen with 6-month history of low-grade fever, fatigue, night sweats. She had remarkable pain in the abdomen and left hypochondrium for 4 months. She had past history of vaso-occlusive crisis. She received approximately 10 unit of whole blood transfusion during last 2 years and under medication of hydroxyurea form local doctor for the treatment of her disease. Her physical examination revealed huge splenomegaly mild hepatomegaly, bilateral axillary lymphadenopathy, Pallor, and mild jaundice. Complete blood count through five part Hematology Analyzer Pentra-60 (Horiba-ABX, Span) showed Hemoglobin 7.8 g/dl and high leukocyte count 82,000/cu mm, Hematocrit 28.8%, MCV 88/f l, MCH 23.7 pg, MCHC 26.9 g/dl, platelets 373000/μL.

When the patient`s leukocyte count was elevated and was found positive for sickle cell test by Sodium Meta bisulfate oxygen reduction test, then the patient was examined and investigated in detail. Spleen was enlarged up to pelvis and liver was enlarged up to the costal margin in Sonography. Liver enzymes were elevated. High-performance liquid chromatography (HPLC) conducted through D-10 (Biorad, USA) for hemoglobin shows Sickle Hemoglobin 30.4%, Fetal hemoglobin <0.8% Hb A1 C 4.8% and Hb

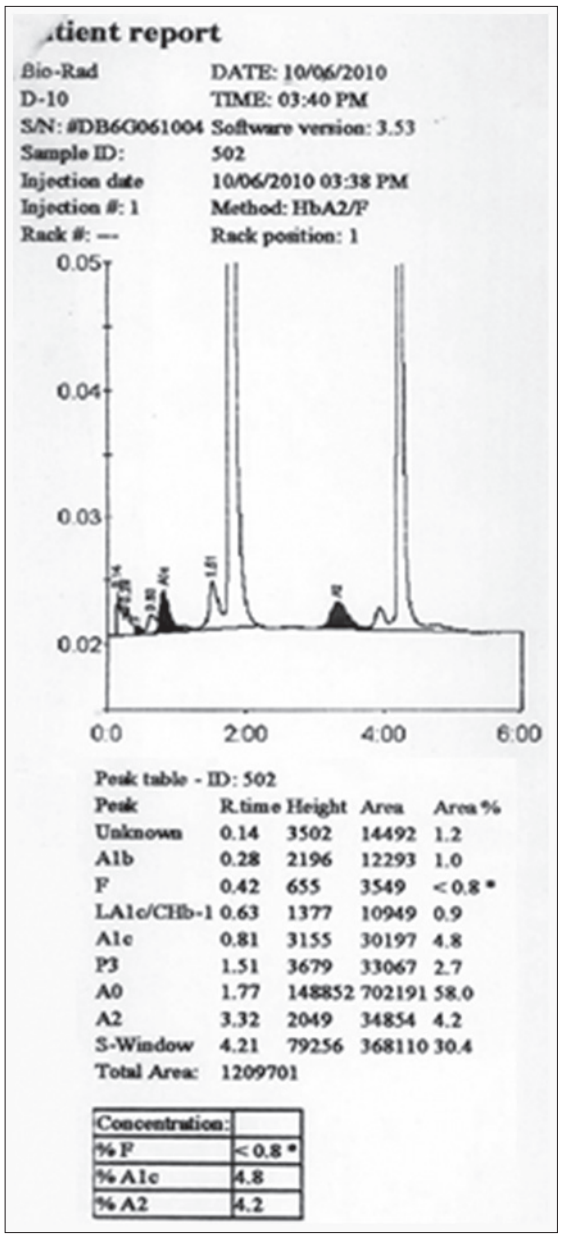

Figure 1: High-performance liquid chromatography graph shows s window

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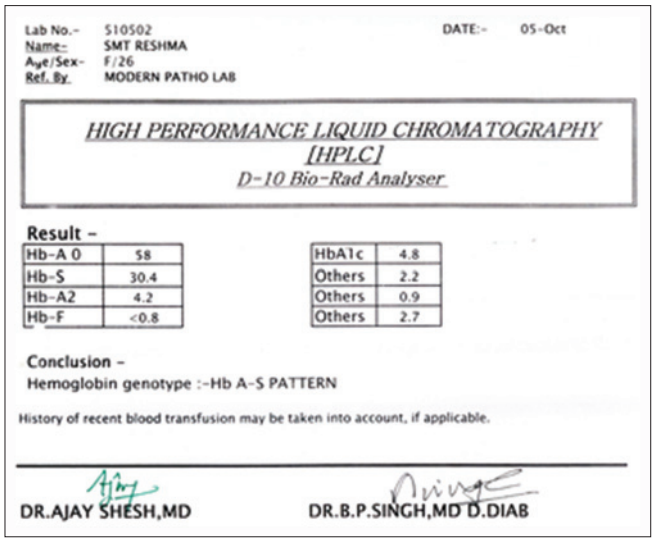

Lab No.- S10502 DATE:- 05-Oct
Name:- SMT RESHMA
Age/Sex- F/26
Ref. By MODERN PATHO LAB

HIGH PERFORMANCE LIQUID CHROMATOGRAPHY [HPLC]
D-10 Bio-Rad Analyser

Result -

Hb-A 0	58	HbA1c	4.8
Hb-S	30.4	Others	2.2
Hb-A2	4.2	Others	0.9
Hb-F	<0.8	Others	2.7

Conclusion -
Hemoglobin genotype :-Hb A-S PATTERN

History of recent blood transfusion may be taken into account, if applicable.

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Figure 2: High-performance liquid chromatography report shows Hb A-S pattern

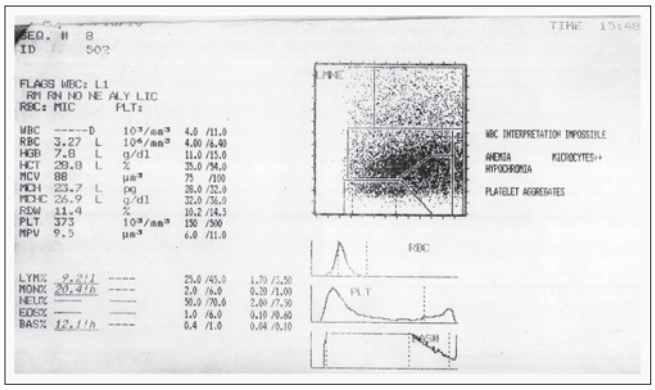

Figure 3: Hemogram picture

A2 4.2%, Peripheral Blood picture showed marked red cell anisopoikilocytosis, drepanocytes, with fare number of normoblasts (7NRBC/100 RBC) (Figures 1-3).

White Blood cell series presented with fair number of metamyelocytes 17% promyelocytes 07% and Band cells 14%, myeloblasts 04%, myelocytes 11%, basophils 12% monocytes 20%, lymphocytes 09%, and mature neutrophils

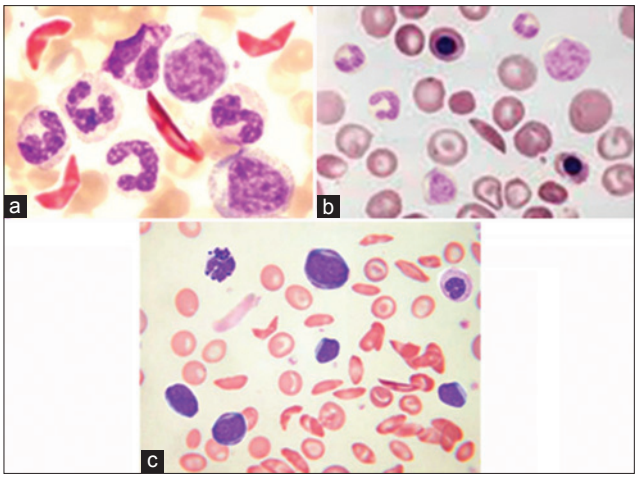

Figure 4: (a-c) Photomicrographs shows red cell anisopoikilocytosis, moderate hypochromasia, drepanocytes, normoblasts, myeloblasts, and basophils

06%. Bone Marrow aspiration and examination revealed depressed erythropoiesis, leukocytes hyperplasia with shift to left predominantly promyelocytes, metamyelocytes, and myeloblasts promotion diagnosis of chronic myeloid leukemia (CML). Cytological evaluation of peripheral blood sample confirmed a Karyotype of 46 XX T (9,22) (q 34;q 11.2); confirming the diagnosis of chronic myelogenous leukemia (Figure 4a-c).

Points to Ponder (2 striking points - this is a compulsory field)

- Diagnosis of CML in a patient of sickle cell anemia is one of the rarest findings in laboratory. Karyotyping performed to confirm the CML and HPLC for SCD apart from Peripheral smears examinations.
- The Association of CML in patients of Sickle cell is one of the rarest combinations. Before this case 10th case was reported by Sallam *et al.* in 2011.

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