

## **Abstract**

Sickle cell disease (SCD) is a group of genetic disorders of hemoglobin that causes multisystem morbidity and an increased risk of early death. The Duffy glycoprotein (Fy) on red blood cells (RBCs) has been hypothesized to promote clearance of inflammatory cytokines, which may play a role in the pathogenesis of vasoocclusion in sickle cell disease (SCD). The purpose of the current study was to detect the relationship between the erythrocyte DARC and clinical expression of SCA. Duffy phenotype was done by indirect anti-globulin test and Duffy genotype was done by PCR-RFLP assay in 100 SCD patients. Differences in demographic, clinical and laboratory findings, end-organ damage, and overall disease severity were compared between FY+ and FY- patients. Of the 100 patients studied, the Duffy-positive males were higher than the Duffy-positive females ( $p=0.039$ ). There was no difference in clinical severity between Duffy-positive and Duffy-negative sickle-cell patients. Duffy antigen expression may not influence the clinical severity of sickle cell disease.

**Key Words:** Sickle cell disease, Duffy antigen receptor for chemokines, measures of disease severity.