

Increased Risk of Haematuria and Urinary Tract Infection in Sickle Cell Traits

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Sir,

Sickle cell trait is asymptomatic condition and the patients who have it generally have no complications. The patients with the sickle cell trait do not suffer from anaemia, pain crisis or haemolysis and this is because only <50% sickle shaped red cells appear in the peripheral blood. The group of countries which are affected by this condition consist of Africa, the Caribbean, the Mediterranean continent and south and central America. India and Saudi Arabia are a sickle trait prevalent zone along with the countries where the ancestral population originates from the prevalent zone. Sickle cell trait occurs in approximately 300 million people worldwide, with the highest prevalence of approximately 30% to 40% in Sub-Saharan Africa. Being long considered as a benign carrier state with relative protection against severe malaria, sickle cell trait occasionally can be associated with significant morbidity and mortality [1]. In few studies, haematuria [2] and urinary tract infection (UTI) [3]. complications were seen in patients with sickle cell traits. We evaluated 90 sickle cell trait patients who were recruited from the Haematology Outpatients Department (OPD), as well as individuals who came from other OPDs for the family screening of haemoglobinopathies. The diagnosis of the patients was done by using high performance liquid chromatography (HPLC) (Bio-Rad-Variant TM Bio-Rad, CA, USA). The complete blood count and the red blood cell indices were measured by using an automated cell analyzer (SYSMEX K-4500, Kobe Japan). About 3 ml of urine sample was collected from the patients after taking their consent. The screening for haematuria and urinary tract infection was performed during the physical and clinical evaluation. A microscopic urine examination was performed for the confirmation of haematuria and urine cultures were put up

for the confirmation of UTI. A total of 90 sickle cell trait patients (52 males and 38 females with a mean age of 22.27 ± 4.11 years) were evaluated during the three year study period when they were attending the Haematology OPD as well as the Haematology Department for the screening for haemoglobinopathies. All the haematological parameters were found to be within the normal range. The clinical and laboratory investigations revealed that 20 patients had haematuria and that 28 patients had UTI, while 9 patients were diagnosed to have haematuria and UTI together. During the evaluation, 15 females were found to be pregnant. The details are given in [Table/Fig-1]. The observations of the study explained that the haematuria was more frequent in males than in females, while UTI was more common in females. The overall frequency of haematuria was 22.23% and that of UTI was 31.12% in the sickle cell trait patients. Our result of the occurrence of UTI in sickle cell trait patients was consistent with the finding of Hamdi [4] et al. (2002), where an increased incidence of urinary tract infections in patients with sickle cell trait was reported. The finding of haematuria with the sickle cell trait in a significant number of patients was believed to indicate a significant relationship. Our observations also revealed an increased frequency of haematuria in sickle cell trait patients, but its aetiology was unknown [5]. The observations of this study are clinically very significant because in our country, sickle cell trait conditions are vividly ignored, while they should be carefully evaluated. Thus, as per our conclusion, UTI and haematuria are significantly existent in sickle cell trait patients.

Clinical Manifestation	Frequency %	
	Male (N=52)	Female (N=38)
Hematuria	13 (25%)	7 (18.42%)
Urinary tract infection	9 (17.3%)	19(50%)
Hematuria and Urinary tract infection	5 (9.61%)	4(10.52%)

[Table/Fig-1]: Frequency of Hematuria and Urinary tract infection in sickle traits

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