

# Effect of Hepatitis C Virus on Erythropoiesis among Sudanese Haemodialysis Patients at Ibn-sena Hospital and Alnao Teaching Hospital

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## Abstract

**Background:** Hepatitis C Virus (HCV) is a major cause of liver disease and is associated with various complications, including erythropoietic failure. The aim of this study was to investigate the effect of HCV on erythropoiesis among Sudanese haemodialysis patients at Ibn-sena Hospital and Alnao Teaching Hospital.

**Objective:** To determine the prevalence of HCV among Sudanese haemodialysis patients and its effect on erythropoiesis.



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isolated areas for hepatitis C virus positive patients and strict enforcement with the universal precautions; all the patients in the study group were not infected with the virus before starting dialysis and develop the infection thereafter, making the haemodialysis an independent risk factor for acquiring the virus.

Several risk factors contribute to the high prevalence of HCV in dialysis centres. Male patients have been reported to have a higher prevalence of HCV infection than female patients in haemodialysis centres. Moreover, the male haemodialysis patients infected with the virus had a significantly higher concentration of serum HCV RNA than females, which corresponds with this study, as the majority of the study group were males (70.7%).

Natov et al. [2] concluded that the interval since the beginning of dialysis has been significantly longer among HCV positive patients. This finding is compatible with our study; compared with anti-hepatitis C virus negative control (17.5%), anti-hepatitis C virus positive patients (75.6%) had more than 5 years of HD duration since initiating renal replacement therapy.

Systemic hypertension appears on earlier age groups, it is generally more severe, and causes higher morbidity and mortality from cardiac stroke and end stage renal disease in patients from African origins. Data in this study was concordant with the literature as hypertension is the leading cause of end stage renal disease in both the study group (36.6%) and the control group (35%).

Interestingly, and similar to the previous studies this study demonstrated that haemodialysis patients with HCV infection tend to have higher mean haemoglobin than negative HCV group patients ( $11.6 \pm 1.2$  g/dl vs  $9.3 \pm 1.8$  g/dl;  $P=0.000$ ).

Simon et al [4] found that patients receiving haemodialysis showed significant increase in haemoglobin level and reticulocyte count, and their blood transfusion requirement is reduced during an episode of viral or toxic liver cytolysis [16]. Also, AL Saran et al. studied eighty-three patients, they found that ESRD patients on regular haemodialysis with hepatitis C virus infection have significant higher haemoglobin and haematocrit levels compared with hepatitis C virus negative patients [17].

In addition, Hefni et al. [18] found that red blood cells count, haemoglobin concentration, haematocrit values were

