SERUM HEPCIDIN LEVELS IN HEMODIALYSIS PATIENTS WITH OR WITHOUT HCV INFECTION

Hayat Mahmoud Abdallah[1], Ezzat Mostafa Mohammed[1], Mohammed EL Said Mostafa[1], Ghada Mohammed Elakad[2].

[1] Department of Internal Medicine, Zagazig University, Egypt.

[2] Department of Clinical Pathology, Zagazig University, Egypt.

Abstract

Background: Hepcidin is a small peptide that is produced by hepatocytes and circulates in the plasma. Impaired hepcidin regulation may play a role in alterations of iron metabolism in HD patients with HCV infection. Therefore, our aim was to measure serum hepcidin levels in hemodialysis (HD) patients and identify a possible relation of chronic hepatitis C virus (HCV) infection on the severity of anemia. **Materials and Methods:** This cross-sectional study was conducted on a cohort of 90 HD patients (50 HCV positive and 40 HCV negative) and 45 healthy age-matched and sex-matched participants who participated as controls. Serum hepcidin and C-reactive protein were measured in patients to study their possible effect on hematological and inflammatory parameters when compared with the control group. **Results:** HD patients had significantly higher serum hepcidin levels than did controls. The HCV-positive group had significantly lower serum hepcidin and ferritin levels when compared with the HCV-negative group. All HD patients had significantly higher levels of serum highly-sensitive C-reactive protein than did controls. Hepcidin was also found to correlate with serum ferritin and CRP levels among HCV- positive patients. **Conclusions:** Changes in serum hepcidin levels are associated with iron status and microinflammation in HD patients. If used as a diagnostic tool, it may improve targeting and timing of iron therapy by identifying patients during periods of reticuloendothelial blockage of iron transport. This is important to avoid iron overload, especially in HCV-positive patients, which may otherwise cause liver injury resulting in fibrosis, cirrhosis, and finally HCC. We also revealed the value of ferritin levels, which seemed to play an important role in determining the severity of liver disease related to microinflammatory activity.

Keywords: Hepatitis C virus, Hepcidin, Inflam