

Chronic Hepatitis C Infection Has No Effect on Peripheral CD4+ CD25+ Tregulatory Cells in Patients with End-Stage Renal Disease

By

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ABSTRACT

Background: T regulatory cells (Tregs), through variable mechanisms, play a crucial role in Hepatitis C virus (HCV) chronicity and infection tolerance. A great speculation is posed regarding the level, role of Tregs in end-stage renal disease (ESRD), and the presence of associated factors that could influence the Tregs population. Accordingly, we aimed at studying the effect of HCV infection on peripheral CD4+ CD25+ Tregs population among patients on hemodialysis (HD) as well as the effect of other comorbidities on these cells. **Patients and methods:** A group of 77 patients on HD (32 were HD HCV+ and 45 were HD HCV-) and 80 healthy controls (HCs) were included in the study. Flow cytometric analysis was performed for identification and quantification of peripheral CD4+ CD25+ Tregs. **Results:** The frequency of CD4+ CD25+ Tregs increased significantly in HD patients compared to the HCs ($p = <.0001$ each). HCV posed no effect on peripheral CD4+ CD25+ Tregs in ESRD patients, when comparing HD HCV- and HD HCV+ groups. In the hypertensive HD HCV-, Tregs percentage was higher than that in the non-hypertensive. However, the difference was not statistically significant. No significant difference was detected between HD HCV- and HD HCV+ patients on the count and percentages of Tregs according to the duration of dialysis. **Conclusion:** Demonstrating that chronic HCV infection has no effect on CD4+ CD25+ Tregs cells levels in ESRD patients is of great importance to the success of future allografts in such patients.