Relations of regulatory T cells with hepatitis markers in chronic hepatitis B virus infection.

El-Badawy O, Sayed D, Badary MS, Abd-Alrahman ME, El-Feky MA, Thabit AG.

Abstract:

To assess regulatory T cells (Treg) in chronic hepatitis B (CHB) infected patients and to evaluate the presence of a possible relation between them and hepatitis B markers, flow cytometry analysis was carried out to calculate the percentages of Tregs, Tregs secreting IL-10 and CD4(+) T cells secreting interferon-γ (IFN-γ) and enzyme-linked immunosorbent assay was used to detect hepatitis B virus (HBV) markers in 59 patients and 32 healthy controls. CD4(+)CD25(+), CD4(+)CD25(+)Foxp3(+), CD4(+)D25(high), CD4(+)CD25(high)Foxp3(+) and CD4(+)CD25(-)Foxp3(+) T cells and Treg cells secreting IL-10 were higher in CHB patients than in healthy controls. CD4(+)CD25(+), CD4(+)CD25(-), and total CD4(+)T cells secreting IFN-γ were generally lower in CHB patients than in healthy controls. Fair correlations were observed between CD4(+)CD25(+)Foxp3(+) T cells and alanine aminotransferase (ALT) levels and between HBsAb and both CD4(+)CD25(+)Foxp3(+) and CD4(+)CD25(high)Foxp3(+) T cells. CD4(+)CD25(+) T cells were significantly higher in CHB virus infected patients positive for HBeAg than in those negative for HBeAg and a good correlation was observed between CD4(+)CD25(+) T cells and HBeAg. Fair negative correlations were observed between CD4(+)CD25(high) T cells and both HBeAb and HBcAb. These data suggest that Tregs contribute to viral persistence. It was not possible to say that Tregs were the cause of immune suppression in this group of patients.

Published In:

Hum Immunol. , Vol. 73, No.4 , pp. 335 - 341