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Paper Poster Session IV

Updates on viral hepatitis

Increased PBMC spontaneous programmed cell death associated with reduced IL-8, IL-6 and IL-10 production in HCV+ patients

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Background: Peripheral blood mononuclear cells (PBMCs) play a major role in clearing invading pathogens including HCV. Several PBMCs defects have been reported during the course of HCV infection. However, the mechanism by which these defects occurring has not been clearly understood. We hypothesized that PBMCs are more susceptible to programmed cell death and thus they are not function properly.

Objectives: the main goal was to investigate the effect of HCV infection on PBMCs programmed cell death and cytokine production by comparing two groups of HCV+ patients (untreated HCV+ patients and treated HCV patients) with HCV- control donors.

Methods: we utilized the advantage of flow cytometry to evaluate PBMCs programmed cell death and determine the cytokine levels in HCV- control donors (n=20), untreated HCV+ patients (n=19), and treated HCV patients (n=8).

Results: we found a significant increased of spontaneous programmed cell death in PBMCs from untreated HCV+ patients and treated HCV patients when compared with those of HCV- control donors. Analysis of IL-8, IL-6, IL-10, IL-1, IL-12, and TNF-α production in PBMCs supernatants from patient study groups showed a significant reduction in IL-8, IL-6, and IL-10 production from PBMCs of untreated HCV+ patients and treated HCV patients in comparison with those of HCV- control donors. The significant reduction of the cytokine levels observed was not reflected in patients plasma.

Conclusion: PBMCs from HCV+ patients are more susceptible to spontaneous programmed cells death than those of HCV- control donors and that was associated with defects in IL-8, IL-6, and IL-10 production.