Abstract: To determine the effect of anti-immunoglobulin antibodies on the measurement of the humoral immune response in hepatitis C virus (HCV) infected patients. Anti-immunoglobulin antibodies were defined using sheep immunoglobulins as a target to characterize distinct changes in patterns of immunoglobulin levels. Serum immunoglobulin A, G and M concentrations were measured by ELISA in 45 patients with recent-onset HCV infection and 45 matched normal individuals. It was found that normal individuals had mean IgA, IgG and IgM levels of 2.67 mg/ml, 9.39 mg/ml and 1.77 mg/ml, respectively while HCV infected patients had mean levels of 3.19 mg/ml, 10.76 mg/ml and 1.94 mg/ml. These represented significant increases in immunoglobulin levels in the sera of HCV patients compared to normal individuals (p<0.0001, p<0.00004 and p<0.0004). Anti-immunoglobulin antibodies lead to an overestimation of serum immunoglobulin levels in HCV patients. Interestingly, the mean levels of immunoglobulins A, G and M in HCV infected sera, determined after purification from anti-sheep immunoglobulins, was 2.73 mg/ml, 9.55 mg/ml and 1.79 mg/ml. Therefore, there was no significant difference in HCV patients compared to normal individuals (p<0.42, p<0.36 and p<0.44). The presence of circulating immune complex in serum during the early phase of infection may contribute to immunopathological effects in the infected host and provide some new insights into antibody response to HCV.

Keywords: hepatitis C virus; antibodies
Purification of HCV infected sera from the effect of antibodies

Statistical analysis

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