

Hepatitis C Virus and related changes in immunological parameters in non Hodgkin's lymphoma patients

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Viral hepatitis is a common and important problem in immunocompromised cancer patients. The present study was conducted to investigate changes in some cellular and humoral immunological parameters as a consequence of HCV infection in non Hodgkin's lymphoma patients (NHL). The study included 40 NHL patients: 20 anti-HCV antibody positive (Gr. I), and 20 anti-HCV antibody negative (Gr. II). In addition, forty non-cancer controls (NCCs) were included: 20 of them were anti-HCV antibody positive (Gr. III) and 20 anti-HCV antibody negative (Gr. IV). The studied immunological parameters included serum levels of interleukin-1 (IL-1), interleukin-2 (IL-2), interleukin-6 (IL-6), and soluble tumor necrosis factor receptors (s-TNFr) measured by ELISA, as well as assessment of T and B lymphocyte subsets by PAP immunostaining method. Mean IL-1 level (pg/ml) was significantly higher in Gr. I (14 +/- 6) and Gr. III (20 +/- 12) as compared to those in Gr. II (7 +/- 5) and Gr. IV (9 +/- 6). Mean IL-2 level (pg/ml) was also significantly higher in Gr. I (132 +/- 101) and Gr. III (135 +/- 59) compared to those in Gr. II (36 +/- 29) and Gr. IV (31 +/- 48). On the other hand, level of IL-6 showed no significant difference between groups. The mean level of sTNF-r, (ng/ml) was only significantly higher in Gr. I (2.9 +/- 1.7) when compared to that in Gr. IV (1.9 +/- 2.2). In group IV, the average percentage of CD3 (70 +/- 4%) and CD4 (44 +/- 5%) were significantly higher than in those of Gr. I (CD3 = 51 +/- 11%, CD4 = 30 +/- 12%), Gr. II (CD3 = 52 +/- 7%, CD4 = 30 +/- 8%), and Gr. III (CD3 = 52 +/- 9%, CD4 = 26 +/- 8%). From all the above immunological and virological features two main tips could be inferred: (1) HCV leads a mild course of infection in NCCs evidenced by normal ALT level in all but 20% of subjects, normal IL-6, sTNF-r, lower counts of CD4+ T cells and hence a mild hepatocellular injury, and (2) In the immunocompromised NHL patients the virus leads potentially more aggressive course as evidenced by higher viremia, as well as significant elevation in sTNF-r, and CD8+ depression.