Hepatitis C Virus Infection in Patients on Peritoneal Dialysis, Hemodialysis and in Dialysis Staff Members in South Serbia

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Dear Sir,

Hepatitis C virus (HCV) is the main causative agent for non-A, non-B hepatitis. The reported prevalence of anti-HCV in hemodialysis patients was from a few percent to 55% using a second-generation assay [1-3]. Prevalence of anti-HCV-positive patients in peritoneal dialysis was reported from 0 to 5.4% or higher; however, a significant portion of anti-HCV-positive patients was previously treated by hemodialysis [4, 5]. Staff members of dialysis centers have a very low prevalence of anti-HCV antibodies [2].

This is a one-center study, performed in September-October 1994 at the Department of Nephrology in Nis, South Serbia. Analyzed are sera of 167 patients on chronic hemodialysis, 42 on CAPD and 98 staff members. Sera were tested by an ELISA second generation from United Biomedicals Inc., USA, that contains recombinant non-structural proteins (C33c, C100) and a recombinant structural protein (C22). The sera were tested also for markers of hepatitis B virus (HBV) infection: hepatitis B surface antigen (HBsAg), antibodies against HBsAg (anti-HBs) and antibodies against hepatitis core antigen (anti-HBc). Serum alanine aminotransferase (ALT) levels were determined by a kinetic method. Antibodies to HCV determined by a second-generation ELISA were found positive in 95 (56.9%) of the 167 hemodialysis patients tested. The anti-HCV-positive patients were on hemodialysis from 6 months to 17.5 years (mean 5.3 years) and the anti-HCV-negative patients from 3 months to 9.5 years (mean 1.75 years). The mean number of blood transfusion units received was 12.4 in anti-HCV-positive, but 5.6 in anti-HCV-negative patients. Two out of 95 anti-HCV-positive and 9 out of 72 anti-HCV-negative patients have not been transfused at all. Seventy-four (77.9%) anti-HCV-positive patients, but 28 (38.9%) anti-HCV-negative patients had a present or past HBV infection. ALT activity was increased in 20 (21%) of anti-HCV-positive patients. Anti-HCV positivity correlated with the duration of hemodialysis and the number of blood transfusions received.

Three out of 7 (42.7%) CAPD patients transferred from HD were anti-HCV-positive. Thirty-five patients were treated exclusively by CAPD, from 1 to 72 months (mean 14). Only 2 patients were anti-HCV-positive (5.7%). None of the staff members had antibodies to HCV.

This study has established a low prevalence of HCV infection in patients on CAPD compared to the very high prevalence in hemodialysis patients. Since transmission of HCV infection was both

transfusional and nosocomial, a prevention program in this highly burdened dialysis center was elaborated, based on the recently published 12-year experience [6].

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