Further Evidence for Nosocomial Spread of Hepatitis C Virus Infection in Hemodialysis Units

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Dear Sir,

Since hepatitis C virus (HCV) infection becomes the main problem in hemodialysis (HD) units, different risk factors have been proposed to be important to its transmission. It has been documented that antibodies to HCV (anti-HCV) positively correlate with gender [1], hepatitis B surface antigen positivity [2], duration of HD [3], and number of blood transfusion [4]. The significance of environmental risk factors has been postulated [5], but not clearly defined. Also, there is no general agreement about preventive measures concerning the isolation policy.

We evaluated all patients in our HD unit and correlated the proposed risk factors between anti-HCV-positive and anti-HCV-negative patients. The patients were tested during 1991, 1992 (ELISA I; enzyme-linked immunosorbent assay), and by the end of 1994 (ELISA II). Among 223 patients (103 males and 120 females, mean age 54.3 ± 12.05 years) 83 (37.2%) were considered to be anti-HCV positive (44 males and 39 females, mean age 52.9 ± 12.2 years). Out of 37 hepatitis B surface antigen positive patients, 7 (18.9%) were anti-HCV positive too. The mean duration of the HD treatment was similar in both groups (7.6 ± 5.6 vs. 7.1 ± 5.9 years). Blood transfusion were applied in 44.5% of the anti-HCV-positive patients (1 dose in 27%, 2-4 in 40.6, 5-10 in 16.2, and > 10 doses in 16.2% of the patients) and in 55% of the anti-HCV-negative patients (1 dose in 26.6%, 2-4 in 35.6, 5-10 in 17.3, and > 10 doses in 20.5% of the patients). Transfusion policy and number of doses did not differ significantly between the two groups.

The first anti-HCV-positive patients were diagnosed in 1991 (n = 20) and in 1992 (n = 3), and they were not dialyzed separately. During the next 2 years, routine testing for anti-HCV positivity and liver enzymes was not possible (we did not have the adequate equipment). Thereafter, 60 newly diagnosed anti-HCV-positive patients were registered in December 1994. We conclude that the isolation policy was the crucial risk factor for spread of HCV infection. Since then, all anti-HCV-positive patients were dialyzed separately with regular sterilization of the machines after every HD session. During the next 9 months (from February to November 1995), no additional anti-HCV-positive patients were detected. Our conclusion is in agreement with data that HCV infection is mainly a nosocomial infection [6] and that transmission could be successfully prevented by a rational isolation policy [7].
References


