High Prevalence of Hepatitis E Virus Antibodies in Spanish Hemodialysis Patients

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Dear Sir,

Hepatitis E virus (HEV) causes epidemic hepatitis in developing countries, but sporadic cases have been reported in developed countries [1]. Although the most important route of transmission is the fecal-oral one via contaminated water, the person-to-person route has been suggested in some epidemiological studies [2], and parenteral [3] and vertical transmission [4] has also been observed. Patients on hemodialysis constitute a high-risk group for viral hepatitis infections, especially those transmitted parenterally, as hepatitis B and hepatitis C.

So far, no prevalence studies of anti-HEV in hemodialysis patients have been reported in Spain. We studied the presence of anti-HEV in the sera of 63 asymptomatic hemodialysis patients. They included 41 men aged 54 ± 14 years and 22 women aged 58 ± 16 years. They had been on hemodialysis for 62 ± 6 months. As a control group, 863 blood donors were investigated for anti-HEV (age range 15-65 years). All samples were examined for anti-HEV by a recently developed enzyme-linked immunosorbent assay (Abbott HEV EIA; Abbott Laboratories, Chicago, Ill., USA) in which two recombinant antigens derived from two different open reading frames of the Burmese strain of HEV are used as solid-phase antigens.

As shown in table 1, 25 (2.8%) sera of persons from the group of blood donors were reactive to anti-HEV. Anti-HEV prevalence did not differ significantly with age or sex. All subjects were asymptomatic, the ALT values were not increased and they did not

Table 1. Seroprevalence of anti-HEV

Tested Positive

Blood donors 863 25 2.8

Hemodialysis patients 63 4 6.3

have epidemiological risk factors for HEV infection.

In the hemodialysis patients studied, anti-HEV antibodies were detected in 4 of the 68 tested (6.3%). One of them was infected with hepatitis C virus, although the ALT values were within the normal range in all of them. No risk factors for HEV transmission were found.

The seroprevalence rate for anti-HEV IgG in our blood donors is in agreement with previous published studies in European countries. It is reported to be 1-3%, although in Mexico or Thailand, it is as high as 7% [5].

Interestingly, although the number of studies on hemodialysis patients is small, the prevalence of anti-HEV antibodies is very high in patients treated in European countries such as Germany [6] and in agreement with our data. There are some possible explanations for the high prevalence of HEV infection observed in these patients.

First, they may have been infected while travelling in endemic areas, but neither the anti-HEV blood donors nor the hemodialysis patients had ever been in endemic areas. Second, as the seroprevalence in Spanish blood donors correlates well with other studies in European countries, and it is significantly lower than the seroprevalence found in hemodialysis patients ($p < 0.01$), parenteral transmission of HEV must be taken into account in the hospital setting. A hospital outbreak of hepatitis E has been published [7] and posttransfusion hepatitis cannot be ruled out [8, 9] since screening of blood donors for HEV is not yet mandatory and early viremia has been assessed at early stages of infection [10]. Third, some environmental factors affecting hemodialysis patients, may maintain the virus in some possible vectors and therefore play a role in the transmission of the HEV virus, as has been reported for HCV infection and both viruses may have common routes of infection [11] in the hemodialysis setting. The lack of clinical manifestations may be due to the infection with a virus strain that does not cause clinical manifestations in infected individuals, since silent seroconversions have been reported in blood donors [12] and emerging atypical strains have been observed [13]. In conclusion, hepatitis E virus infection must be considered in hemodialysis patients in European countries although more studies are needed to investigate if HEV infection may have a nosocomial origin or may be transmitted by parenteral routes in these patients.

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