

Anti-Hepatitis E Antibody in Hemodialysis Patients

Hemodiyaliz Hastalarında Anti-Hepatit E Antikoru

Hepatitis E Virus (HEV) is a significant health problem that causes hepatitis in developing countries and especially in Asia, Africa and Latin America (1). Even though the common route of transmission of HEV is fecal-oral, other probable modes of transmission in endemic areas include vertical transmission, blood transfusions, person-to-person contact and zoonotic transmission (2).

To date, different studies have reported controversial results about the seroprevalence of HEV in hemodialysis (HD) patients and in most of the studies increased prevalence of HEV is noted (3). Herein, we report our experience of anti-HEV IgG seroprevalence in a selected population of HD patients in our hospital hemodialysis unit. The study was performed between the dates of August 2016 and November 2016 in serum samples of 68 patients (male n=40, female n=28) on maintenance HD, sent to our Serology laboratory for hepatitis screening. The mean age of the HD subjects was $49.2 \pm$ Standard Deviation [SD] 16.8 years (age range: 19-83). Tests for the HEV serum marker (anti-HEV IgG) were carried out using a commercially available enzyme-linked immunosorbent assay kit (Euroimmun Anti- Hepatitis E Virus (HEV) ELISA (IgG), Germany). The tests were conducted in accordance with the manufacturer's instructions. Medical records were reviewed, and information on age, sex, HD duration, and evidence of hepatitis B or hepatitis C infection was collected. The mean duration of HD treatment was 37.9 (ranging between one month and 240 months). Three (4.5%) of the patients were infected with Hepatitis B (HBV) and 11 (16.4%) with hepatitis C virus (HCV). Among the evaluated individuals, the ELISA results demonstrated the existence of anti-HEV IgG antibody in only one patient (1.5%). In two patients, indeterminate ELISA results were obtained repeatedly in two different runs.

Reports from Japan, Saudi Arabia and Greece have demonstrated a noticeable HEV seroprevalence in HD patients (4-6). In contrast, some other reports demonstrated a low level of infection in their study group of HD patients. For instance, in a study from Brazil, all chronically hemodialyzed patients were found to be seronegative for HEV (7). Most of the reports from Turkey of HEV seroprevalence are also in line with other studies and show a higher prevalence of anti-HEV in HD patients compared to healthy blood donors, ranging from 10.4% to 23.5% (8-10). In contrast to these reports, in few studies, no statistically significant difference was observed between the HEV prevalence in HD patients compared to the prevalence in the normal population (11, 12). In our study, seroprevalence of anti-HEV IgG is 1.5% (4.3 %with the grayzone results), which is lower than the prevalence in our region 6.6% (13). The association between anti-HEV positivity and the positivity for hepatitis B (HBV) or C virus (HCV) infection markers seems to be unclear (14). Some reports have shown a positive serostatus of HBV and HCV in anti-HEV-positive HD patients and an association between HBV or HCV acquisition HEV transmission seems to be possible (15). In our patient population, HCV seroprevalence was quite high (16.4%) compared to the low rate of HEV infection. In conclusion, in our setting, transmission by HD remains controversial. In the presented letter, the studied population consists of a small group, which causes a limitation. The low rate of HEV may be due to the small number of patients. In addition, the negative anti-HEV IgG results could also be related to the immunosuppression caused by the renal disease, a loss of antibodies, or a possible weak antibody response.

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A larger study group including a control group, tested for Anti-HEV IgM, anti-HEV IgG and HEV RNA will give a better understanding of HD patients in our Hemodialysis unit.

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