P1423
Paper Poster Session
How to diagnose and transmit hepatitis E

The epidemiological features of hepatitis E virus infection in Romania

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Background: The researches focused on the hepatitis E virus (HEV) has dramatically increased since the description of the chronic hepatitis cases caused by genotype 3 infection in patients with various immunosuppressive diseases. According to World Health Organization, HEV infection seems to be widespread throughout the European continent, with an estimated seroprevalence between less than 5% up to 52% in southeastern France. However, up to this moment no HEV seroprevalence data are available for Romania.

Material/methods: It is a prospective cross-sectional survey conducted in the National Institute for Infectious Diseases “Prof Dr. Matei Bals”, Bucharest, between January and September 2015. The primary objective is estimating the prevalence of serum HEV immunoglobulins G (HEV-IgG) in the Romanian population. The secondary objective is defining the epidemiological features associated with HEV-IgG positive status. The recruitment criteria were based on a consecutive selection of adult patients, over 18 years old, who are attending the hospital for any medical reason and are willing to sign the informed consent. The serum HEV-IgG determination was performed by ELISA assays. Each patient had to fill out an epidemiological questionnaire. The comparisons between groups of categorical variables were made using chi-square test or Fisher’s exact test; the continuous variables were compared using the Mann-Whitney U test. Statistical analysis used the SPSS v17.0 software package.

Results: We enrolled 164 patients with a median age of 39.5 years (IQR, 28-59). The male/female ratio was 0.6. The geographical distribution of the selected patients covered 25 counties, 72.5% (n=119) being from urban areas with the highest representation for Bucharest [39.63% (n=65)]. The serum HEV-IgG prevalence was 19.5% (n=32). The median age of patients from positive serum HEV-IgG group was 55 years (IQR, 37-65) compared to 36 years (IQR, 28-56) in the negative group, p=0.002. Previous blood transfusions were present in 26.7% (8 patients out of 32) in positive HEV-IgG group compared to 6.4% (8 patients out of 132) in the negative group. The multivariate analysis found that older age [OR (95%CI) =1.03 (1.0-1.05), p=0.034] and a history of blood transfusions [OR (95%CI) = 3.95 (1.23-12.7), p=0.021] were associated with serum HEV-IgG positivity. None of the following risk factors analyzed in our study have been statistically significant associated with HEV

infection: gender, rural area, pregnancy status, taking care of animals, hunting, intravenous drug using, traveling abroad, consumption of undercooked meat, animals organs, sea food, drinking unsafe water, presence of immunosuppressive diseases or therapy.

Conclusions: Our data suggest that Romania is an endemic area for HEV infection with an estimated IgG seroprevalence about 19.5%. The history of blood transfusions seems to increase almost 4 times the relative risk of HEV infection, reflecting a potential route of transmission of the virus through blood products transfusions.