Prevalence of anti-HEV antibodies among patients with immunosuppression and hepatic disorders.

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INTRODUCTION
Recent epidemiological reports confirm that hepatitis E virus (HEV) is an emerging disease and most frequent cause of acute hepatitis in Europe. Among patients with immunodeficiencies of diverse aetiology or patients with chronic liver diseases, HEV may cause chronic hepatitis or lead to the aggravation of pre-existing liver disease.

AIM
This study aims to assess the seroprevalence of anti-HEV IgM and IgG antibodies and HEV antigen in patients with immunodeficiencies (solid organ transplant recipients, HIV positive population) and patients with liver cirrhosis.

METHOD
450 patients (mean age: 50.35 yrs, 21-80) were enrolled (Fig. 1). 180 persons were renal (n=176) or liver (n=4) transplant recipients (TR). 90 patients were HIV infected. 180 persons had confirmed liver cirrhosis (LC) of different aetiologies.

RESULTS
- Serum antibodies IgG against HEV in transplant recipients were detected in 40.6% patients (n=73), IgM in 4.4% (n=8) and HEV-Ag in 5% (n=9). Serum HEV-Ag together with anti-HEV IgG were present in 4.4% (n=8) (Fig. 2).
- There were no associations between presence of anti-HEV antibodies or HEV-Ag with the type of post-transplant immunosuppression.
- In studied HIV population 37.7% (n=34) had anti-HEV IgG, 1.1% (n=1) had anti-HEV IgM and none HEV-Ag (Fig. 2).
- In group of alcoholic liver cirrhosis anti-HEV IgG seroprevalence was 52% (n=64), anti-HEV IgM in 5.7% (n=7) and HEV-Ag in 2.4% (n=3) who had also serum anti-HEV IgG present (Fig. 2).
- In patient with liver cirrhosis other than alcoholic (n=57) the HEV IgG prevalence was 35.1% (n=20) (Fig. 2).
- There were no differences related with the frequency of anti-HEV antibodies or HEV-Ag detection to the gender or place of residence in studied groups (Fig. 3).
- The mean age of patients anti-HEV IgG (+) was significantly higher (54 yrs, 25-80) than group HEV--seronegative (46 yrs, 21-71) (Fig. 4).
- There were no differences in MELD and Child-Pugh-Turcotte (CPT) scoring systems between HEV IgG (+) and HEV IgG (-) groups of patients with alcoholic LC. However, in group of 7 patients with alcoholic LC HEV IgM (+), 6 patients were in CPT group B, 1 in CPT group C; 5 patients have MELD between 10-19, and 2 patients have MELD between 20-25 points. One patients HEV Ag (+) was in CPT g.B and had 18 points in MELD.

CONCLUSIONS
In this large cohort a high prevalence of anti-HEV, exceeding demonstrated in majority of Western European countries, was confirmed. Among specific risk groups highest prevalence was noted in alcoholic liver disease and in transplant recipients, and was correlating with age. HEV seroprevalence is alarming and requires further investigation especially in patients with alcoholic cirrhosis as a potential factor that may influence a disease progression.

REFERENCES

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Fig. 1. The prevalence of HEV IgG, IgM and HEV-Ag in studied groups

Fig. 2. The prevalence of HEV IgG, IgM and HEV-Ag in studied groups

Fig. 3. The prevalence of HEV IgG related to the place of residence and gender

Fig. 4. The comparison between HEV IgG (+) and HEV IgG (-) groups in patients with alcoholic LC.

Fig. 5. Studied group divided by the aetiology (TR - transplant recipient; LC - liver cirrhosis)

Fig. 6. Comparative evaluation of MELD and CPT scoring systems between HEV IgG (+) and HEV IgG (-) groups.