

The Seroprevalence of Hepatitis E IgG in HIV Positive Subjects In a Single Treatment Centre

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Background:

Acute Hepatitis E virus (HEV) is an emerging infection in developed countries and a major cause of hepatitis worldwide. Initially thought to be rare in industrialised countries and a disease of returning travellers there is now a body of evidence that suggests autochthonous hepatitis E is much more common than previously thought.

The clinical features of HEV can range from asymptomatic infection to fulminant liver failure with a poor prognosis seen in those with pre-existing liver disease, pregnancy or alcohol excess. HEV is neurotropic and has been reported to cause neurological complications.

Chronic infection with HEV is increasingly recognised in immunocompromised subjects with more pronounced immunosuppression leading to a higher prevalence (immunosuppressed transplant recipients and individuals with haematological malignancy). It has been recognised as a cause of chronic hepatitis in HIV infection.

It may be an important diagnosis to exclude in the HIV population.

The detection of HEV requires demonstration of specific IgM, rising levels of IgG, or detection of HEV RNA

Methods:

We identified a group of patients to screen for HEV on the basis of: (1) CD4 count <200 with abnormal ALT, (2) presence of hepatitis B surface antigen or hepatitis C antibody, and (3) a clinical diagnosis of peripheral neuropathy. Subjects were screened for HEV IgM, IgG and HEV PCR.

Results

Demographics and HEV Results

Variable	Value (n=153)
Gender	
Male	140 (91.5%)
Female	13 (8.5%)
Age	
Median	46.3 years
Range	20.5 – 80.5
Route HIV acquisition	
MSM	121 (79.1%)
IVDU	7 (4.6%)
Transfusion	1 (0.7%)
Heterosexual	22 (14.4%)
Unknown	2 (1.3%)
On HAART	
Yes	147 (96.1%)
No	6 (3.9%)
Reason screened	
HBV	41 (26.8%)
HCV	96 (63.2%)
Neuropathy	23 (15%)
CD4 <200	5 (3.3%)
Abnormal ALT	
Yes	15 (9.8%)
No	138 (90.2%)
HEV results	
IgG	9 (5.9%)
IgM	0
PCR	0

Seroprevalence from healthy donor studies

Study	Country	Population	Result (%)
Dalton et al 2008	UK	500	16
Dalton et al 2007	New Zealand	265	4
Christensen et al 2007	Denmark	456	20.6
Meng et al 2008	USA	400	18.3
Mansuy et al 2011	SW France	529	52
Boutrouille et al 2007	N France	1998	3.2
Olsen et al 2006	Sweden	108	9.2
Dobreniuc et al 2001	Moldova	255	24.7
Buti et al 2006	Catalonia	1280	7.3
Stefandiset al 2004	Greece	351	0.26



Coloured transmission electron micrograph (TEM) showing hepatitis E particles (the spherical purple objects). This virus is a non-enveloped, single-stranded RNA virus.

153 patients were screened (see table). The seroprevalence of HEV IgG was 5.9%. There were no cases of chronic infection identified. There were no factors identified that predicted seropositivity. All cases were in MSM but this was not statistically significant given that most of the cohort were MSM

Discussion:

We found a lower than expected prevalence of HEV IgG and no evidence of chronic infection. This may reflect the relative young age of our HIV population who also have well preserved CD4 counts (only 5 subjects had CD4 counts below 200). However previous studies have suggested that accounting for age and sex there is no difference in anti-HEV seroprevalence between subjects with and without HIV.

