Manifestations extra-hepatiques du VHE

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Hepatitis E Virus (HEV) Infection of Endothelial Cells of a Ribavirin-responsive Primary Cutaneous CD30 (+) T cell Lymphoproliferative Disorder

HEV (red) CD3 (green)
Structure of the Hepatitis E Virus (HEV) and Its RNA Genome.

[Diagram showing the structure of the Hepatitis E Virus (HEV) and its RNA genome, including the noncoding regions and ORFs.]
Séroprévalence anti-VHE chez les donneurs de sang

n = 10 569 donneurs

IgG anti-VHE : 22,4 %

IgM anti-VHE : 1 %
Séroprévalence anti-VHE chez les donneurs de sang

FIG. 2. Prevalence of anti-HEV IgG in donors by age group (square brackets).
Hepatitis E transmission
Course of Acute HEV Infection.
Hepatitis E Virus and Chronic Hepatitis in Organ-Transplant Recipients

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Hepatitis E Virus (HEV) Concentration during Ribavirin Therapy.
Extrahepatic manifestations

A. Reported extrahepatic organ manifestations in the context of hepatitis E virus infection
- Meningitis
- Thyroiditis
- Neuralgic amyotrophy
- Cryoglobulinemia
- Myocarditis
- Pancreatitis
- Glomerulonephritis
- Lymphoma/thrombocytopenia
- Arthralgia/myalgia
- Guillain-Barré syndrome

B. Possible mechanisms of extrahepatic symptoms in the context of HEV replication
- Enveloped viruses in the peripheral blood
- Neuronal cell
- Kidney cell
- Langerhans cell
- T cell/macrophage mediated cell lysis
- Macrophages
- Plasma cell
- CD8+ T cell
- CD4+
- Cytokines (IL-2, IL-6, IL-12)
- B cell presenting antigens

C. Possible mechanisms of neurological manifestations in the absence of HEV replication

Non-enveloped viruses being excreted in stool

Pischke et al. J Hepatol, 2017;66 (5)1082–95
Fig. 4. Reported sites of HEV replication. HEV infects and replicates primarily in the liver. However, studies performed in animal models reported HEV replication also in the small intestine, colon and lymph nodes as well as kidney, spleen and stomach. Furthermore, replication in the kidney has been recently suggested by the presence of HEV in the urine of patients with acute and chronic HEV as well as experimentally infected monkeys. Among extrahepatic manifestations, neurological complications are the most frequent. HEV RNA has been found in the cerebrospinal fluid of some patients with such complications and evidence for intrathecal antibody production has been provided in one case, suggesting possible infection of the central nervous system. The most severe symptoms are observed in pregnant women, possibly related to the reported infection of placental tissue.
Clinical and virological courses under antiviral treatment in a Caucasian male with a CD30(+) cutaneous T-cell lymphoproliferative disorder and chronic HEV infection

Mallet et al. J Hepatol, 2017; 17: 32250-X
TCRβ/CDR3 high-throughput sequencing of circulating and tissue-resident T cells.
Key messages on HEV

• First cause of acute hepatitis worldwide
• Emerging autochtonous infectious disease
• HEV should always be searched in the setting of acute/chronic unexplained liver disease
• Use PCR
• Ribavirin is a treatment of HEV
• Extrahepatic replication of HEV accounts for extrahepatic diseases, including lymphoproliferative disorders
Recommendations

• Compromised patients should be informed about the risks of foodborne transmission of HEV (A III)

• For patients with chronic HEV, reduction of immunosuppressive drugs could be considered (B III)

• For patients with chronic HEV, antiviral therapy with ribavirin could be considered (B III)

# Acute hepatitis during SCT/chemotherapy: Screening recommendations

<table>
<thead>
<tr>
<th>HBV (AII)</th>
<th>HBsAg, NAT</th>
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<tbody>
<tr>
<td>HEV (AIII)</td>
<td>NAT</td>
</tr>
<tr>
<td>HCV (AIII)</td>
<td>NAT</td>
</tr>
<tr>
<td>Anti-HAV IgM antibodies (AIII)</td>
<td>Anti-HAV IgM antibodies</td>
</tr>
<tr>
<td>ADV, CMV, EBV, HSV, VZV(^1)</td>
<td>NAT</td>
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</tbody>
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**NAT:** Nucleic Acid Testing

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