Hepatitis E Virus Infection in Germany

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Incidence of Hepatitis E in Germany
reported cases 2001-2008

Robert-Koch-Institute 2009
### Incidence of Hepatitis E in Germany

#### reported cases 2001-2008

<table>
<thead>
<tr>
<th>year</th>
<th>cases reported</th>
<th>% of cases without travel history</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>31</td>
<td>n.d.</td>
</tr>
<tr>
<td>2002</td>
<td>17</td>
<td>44</td>
</tr>
<tr>
<td>2003</td>
<td>32</td>
<td>33</td>
</tr>
<tr>
<td>2004</td>
<td>53</td>
<td>40</td>
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<tr>
<td>2005</td>
<td>54</td>
<td>44</td>
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<tr>
<td>2006</td>
<td>52</td>
<td>44</td>
</tr>
<tr>
<td>2007</td>
<td>75</td>
<td>61</td>
</tr>
<tr>
<td>2008</td>
<td>101</td>
<td>n.d.</td>
</tr>
</tbody>
</table>

*Robert-Koch-Institute 2009*
Autochthonous Hepatitis E in Germany
2004: first proven case of autochthonous infection

50-year-old man admitted with severe hepatitis

Findings: ALT 1455 U/l, AP 308 U/l, bilirubin (tot) 283 µmol/l
History: no alcohol abuse, no hepatotoxic subst. ingested
no stay abroad during last 6 months
excluded, no autoimmune antibodies
Liver histol.: acute hepatitis resembling viral hepatitis

anti-HEV IgM +IgG pos., HEV-PCR in serum pos.
sequence analysis: genotype 3, high homology
to swine isolate from Netherlands

A renal transplant patient with progressive rise in transaminases

- histologically proven chronic hepatitis
- no hepatitis A, B, C, no autoimmune antibodies
- active infection with HEV: anti-HEV IgM and IgG pos., HEV-RNA pos., HEV of genotype 3
- analysis of stored sera showed start of infection more than one year before

Banas, Tausch, Jilg unpublished
Autochthonous Hepatitis E in Germany 2004: a case of chronic autochthonous infection

Banas, Tausch, Jilg unpublished
Risk factors for Hepatitis E in Germany

66 patients with hepatitis E (2006-2007)

- Infection acquired abroad (Nepal, India, Pakistan, Ethiopia, USA):
  - 8/9 ⇒ genotype 1
  - 1/9 ⇒ genotype 3 (USA)

- Infection acquired in Germany:
  - 14/15 ⇒ genotype 3
  - 1/15 ⇒ genotype 4

Wichmann et al, J Inf Dis 2008; 198: 1732-40
Risk factors for Hepatitis E in Germany
phylogenetic analysis of autochthonous cases

Wichmann et al, J Inf Dis 2008; 198: 1732-40
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- Infection acquired in Germany:
  - 14/15 => genotype 3
  - 1/15 => genotype 4

Risk factors:
- Consumption of offal or wild boar meat

Wichmann et al, J Inf Dis 2008; 198: 1732-40
HEV in wild boars in Germany

- sera of 189 wild boars collected in 1995/96 in Mecklenburg-Vorpommern analysed for HEV-RNA
- 10/189 (5.3%) positive
- all isolates belonged to genotype 3 clustering within one branch together with pig isolate from the Netherlands

*Kaci et al, Vet Microbiol 2008; 128: 380-5*
Hepatitis E in Germany
- present state of knowledge -

- 50 - 100 acute cases /year
- > 50% autochthonous infections
- anti-HEV-prevalence > 10% (?)
- about 100,000 infections/year (?)
Hepatitis E in Germany
- nationwide prevalence study -

- Anti-HEV will be tested in sera of participants of the German Health Interview and Examination Survey for Adults (DEGS) conducted by the Robert-Koch-Institute
- aim of the DEGS is to collect representative data on the health status, health-related behaviour, healthcare and living conditions of adults resident in Germany
- about 9,000 participants will be enrolled
- carried out from Nov. 2008 till Nov. 2011 in a total of 180 cities and municipalities all over Germany
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