Migration and viral hepatitis

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Migration in Greece

• Historically, Greek people would migrate to USA, Australia and Western Europe.

• Greece did not have immigrants until recently.

• Dramatic political changes in the Balkans and Eastern European countries.
Migration in Greece

• Since the beginning of 1990’s immigrants from Albania, other Balkan countries and former USSR countries start coming into the country.

• They reside in both urban and rural areas and in the last census (2001) immigrants account for almost 10% of our population.
Policy for immigrants and infectious diseases

• In order to get legal papers all immigrants and their families have to get a “health certificate”.

• Adults need a chest x-ray (r/o TB)

• Children need a Mantoux test + chest x-ray.
Immigrants and Viral Hepatitis testing

• No serologic testing for viral hepatitis is required for:
  ➢ health certificate
  ➢ refugee camps

• So data on migration and viral hepatitis derived from individual studies from different areas of the country.
Immigrants and HAV

• It is expected that people that grew up in areas with medium to high endemicity of HAV will be immune.
• In a study from Epirus a prevalence of 98.2% of anti-HAV antibodies was found in ~1000 immigrants from Albania 0-81 years old.
• Among pregnant Albanian women: 96.2%.
• In pediatrics, sporadic cases of hepatitis A in children post vacation when immigrant children visit home country.

Migration and hepatitis B

- Many small studies with local data.
- Older study from Epirus found in Albanian immigrants very high prevalence of hepatitis B markers:
  - HBsAg: 22.2%, anti-HBc: 70.6%, HBeAg: 21.1%.
  - anti-HDV: 12.7%.
- Recent study from Athens area with 130 refugees from different areas of the world confirmed the high HBV infection rate in immigrants.

### Prevalence of HBV markers in immigrants residing in Athens

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N</th>
<th>HBsAg (+)</th>
<th>Anti-HBc (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>76</td>
<td>17 (22.4%)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>54 (71%)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>E. Europe</td>
<td>35</td>
<td>0 (0)</td>
<td>8 (23%)</td>
</tr>
<tr>
<td>Asia</td>
<td>11</td>
<td>3 (27.3%)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5 (45%)&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Africa</td>
<td>5</td>
<td>0 (0)</td>
<td>2 (25%)</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>20 (13.4%)</td>
<td>69 (53.1%)</td>
</tr>
</tbody>
</table>

<sup>a</sup> P<0.008, <sup>b</sup> P<0.001

Migration and hepatitis B

- Many studies have been performed in pregnant women (retrospective and prospective data).

<table>
<thead>
<tr>
<th>Author, year publ.</th>
<th>Data collection</th>
<th>HBsAg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malamitsi-Puchner A, et al. 1996</td>
<td>Retrospective, Albanian women (N=500), one center</td>
<td>13.4%, HBeAg(+): 7.5%</td>
</tr>
<tr>
<td>Panagopoulos P, et al. 2004</td>
<td>Retrospective data on 5,497 women over 8yrs one center</td>
<td>Immigrants: 4.67% Greek: 2.9%</td>
</tr>
<tr>
<td>Papaevangelou V, et al. 2006</td>
<td>Prospective on 3,760 women, whole country over 2 weeks</td>
<td>Immigrants: 5.7% Albanian: 9.8%, Greek: 1.7%</td>
</tr>
<tr>
<td>Elefsiniotis L, et al. 2007</td>
<td>Prospective 2 year, one center (N=26,746)</td>
<td>Albanian: 4.9%, E.Europe: 1.29%, Asian: 5.6%, Greek: 0.57% HBeAg(+): 2.67%</td>
</tr>
</tbody>
</table>
Migration and hepatitis C

• Prevalence of HCV in Greek population: 0.4-0.8%

• In immigrant population prevalence: 1.75 – 2.3%.

Prevalence of HCV antibodies in immigrants residing in Athens

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>% Anti-HCV (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>1.9</td>
</tr>
<tr>
<td>E. Europe</td>
<td>2.8</td>
</tr>
<tr>
<td>Asia</td>
<td>0</td>
</tr>
<tr>
<td>Africa</td>
<td>12.5</td>
</tr>
<tr>
<td>Total (N=130)</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Migration and hepatitis C

In immigrant pregnant women:

- Retrospective study over 8 yrs from one center (N=5,497): 1.33%*

- Prospective study, whole country over 2 weeks (N=3,760): 0.8%

- Prospective study, one center, one year (N=2,408): 4.82%**

* Greek: 0.16%  **E. Europe

Papaevangelou V personal communication.
Conclusions (I)

Epidemiology of viral hepatitis have changed over the last 15 years with the increased number of immigrants:

- Increased number of acute hepatitis A in susceptible children of immigrant families traveling back to home country for vacation.

- Need to reinforce vaccination of this high risk group.
Migration and viral hepatitis in Greece
Conclusions (II)

– Increased number of immigrants with chronic HBV infection. Implications for:
  - Health system burden over the next decades.
  - Early vaccination of infants and catch up vaccination of children and adolescents.

– Although immigrants are not tested routinely; no issue with HCV infection.
Integration of recent immigrants

• All these data pertains legal immigrants that have access to official health care services.

• It is reasonable to believe that recent immigrants
  – might have higher prevalence of viral hepatitis
  – they are at higher risk of both get infected and transmit it to others