Hepatitis A Seroprevalence in Different Age Groups in Kiev City, Ukraine

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Hepatitis A Incidence in Ukraine (per 100,000 population), 2000-2006

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Hepatitis A Outbreaks in Ukraine (2003)

Hepatitis A incidence in the Krasnodon region: 1999-2003
(per 100,000 population)

2003
- 3 outbreaks
- 790 patients
- The largest was in Sukhodol’sk town: 744 patients including 244 children
### Outbreak control: Sukhodol’sk’ experience (2003)

**July 9, 2003**: single dose of Avaxim™ vaccine, coverage 38% of children population

**September 22, 2003**: no new cases of hepatitis A in the town, outbreak is stopped

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#### Hepatitis A incidence among children in Sukhodol’sk town

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Vaccinated</th>
<th>Non-vaccinated</th>
<th>Fold reduction*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases/N</td>
<td>Cases/100,000</td>
<td>Cases (N)</td>
</tr>
<tr>
<td>2-6</td>
<td>0/293</td>
<td>0</td>
<td>6/451</td>
</tr>
<tr>
<td>7-14</td>
<td>1/615</td>
<td>162</td>
<td>62/1045</td>
</tr>
<tr>
<td>Total</td>
<td>1/908</td>
<td>110</td>
<td>68/1496</td>
</tr>
</tbody>
</table>

**Effectiveness of one-dose vaccination**: 98-100%

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Hepatitis A Outbreaks in Ukraine (2004-2007)

► 2007 (January – October)
  – 4 outbreaks
  – 113 patients including 57 children

► 2006
  – 10 outbreaks
  – 146 patients including 96 children

► 2005
  – 9 outbreaks
  – 173 patients including 68 children

► 2004
  – 5 outbreaks
  – 71 patients including 54 children
Most Recent Hepatitis A Outbreak in Ukraine (September-October 2007)

► Schelkino town, Crimea
  - 11,320 inhabitants
  - 48 acute cases of hepatitis A from September 3rd to October 15th, 2007 (17 children)
  - Renewal of canalization system one month before appearing of the 1st case
  - Immediate selective vaccination of at risk groups (schoolchildren, adults with special occupations)
Objectives of Epidemiology Study

► To evaluate Hepatitis A seroprevalence in different age groups in Kiev city, Ukraine
► To evaluate a rationale for implementation of routine vaccination in Ukraine
Methods

► Qualitative ELISA kit (Total HAV, Dia-Sorin, Italy) for total anti-HAV antibodies, sensitivity > 10 mIU/ml

► 1000 non-vaccinated subjects enrolled during March - June, 2007

► Five age groups (200 subjects per group):
  - 1-5 years
  - 6-11 years
  - 12-17 years
  - 18-50 years
  - > 50 years
Hepatitis A Seroprevalence in Different Age Groups in Kiev, 2007

% of subjects positive of anti-HAV antibodies

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Hepatitis A Seroprevalence in Children in Kiev, 2007

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Possible Strategy of Routine Hepatitis A Vaccination in Ukraine

- High susceptibility to HAV was observed in all age groups in children and young adults in Ukraine.

- The optimal age for Hepatitis A vaccination in National Immunization Schedule is likely to be from 12 months to 3 years of age.

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Conclusions

► Susceptibility to HAV decreases with age, but remains high in adolescents and young adults in Kiev

► Average range of anti-HAV seropositivity: 32%

► Routine Hepatitis A vaccination can become the most effective prophylactic measure

► Universal vaccination have to be considered for all young children in Ukraine
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Thank You for attention