HSV-2 specific seroprevalence among various populations in Rome, Italy

Demographic data
We conducted a cross sectional seroprevalence study on anonymous banked blood samples taken from adults for various reasons, between January and September 1998 at “La Sapienza” University Hospital, Rome, Italy. Blood samples were available for the following four groups of individuals:
(a) military recruits, from various Italian regions, undergoing routine medical examination for enrolment in the military service
(b) people attending an outpatient facility for either vaccination against viral hepatitis B or post-exposure prophylaxis
(c) blood donors
(d) pregnant women undergoing routine serological controls.

Methods
TEST USED
All samples were tested with a commercially available kit approved by the US Food and Drug Administration: the herpes simplex virus (HSV) type 2 specific gG ELISA test manufactured by Meridian Diagnostics Inc (Cincinnati, OH, USA). The sensitivity and specificity of the test are 98% and 97%, respectively.

STATISTICS
To test the difference between prevalence rates, we calculated χ² and χ² for linear trends and 95% confidence intervals.

Results
The study population consisted of 673 individuals. Table 1 presents the HSV-2 seroprevalence by sex, age, and group studied.

<table>
<thead>
<tr>
<th>Group studied</th>
<th>No of individuals</th>
<th>No of HSV-2 positive</th>
<th>% HSV-2 positive (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>673</td>
<td>37</td>
<td>5.5 (3.9–7.5)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
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<tr>
<td>Males (%)</td>
<td>448</td>
<td>22</td>
<td>4.9 (3.1–7.3)</td>
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<tr>
<td>Females (%)</td>
<td>225</td>
<td>15</td>
<td>6.7 (3.8–10.8)</td>
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<tr>
<td>Age (years)</td>
<td></td>
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<tr>
<td>1–19</td>
<td>168</td>
<td>6</td>
<td>3.6 (1.3–7.6)</td>
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<tr>
<td>20–29</td>
<td>152</td>
<td>12</td>
<td>7.9 (4.1–13.4)</td>
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<tr>
<td>30–39</td>
<td>171</td>
<td>7</td>
<td>4.1 (1.7–8.3)</td>
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<tr>
<td>40–49</td>
<td>98</td>
<td>6</td>
<td>6.1 (2.3–12.8)</td>
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<tr>
<td>50–99</td>
<td>84</td>
<td>6</td>
<td>7.1 (2.7–14.9)</td>
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<tr>
<td>Groups studied</td>
<td></td>
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<tr>
<td>Military recruits</td>
<td>156</td>
<td>6</td>
<td>3.8 (1.4–8.2)</td>
</tr>
<tr>
<td>Outpatients</td>
<td>272</td>
<td>15</td>
<td>5.5 (3.0–8.7)</td>
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<tr>
<td>Blood donors</td>
<td>179</td>
<td>11</td>
<td>6.1 (3.1–10.7)</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>66</td>
<td>5</td>
<td>7.6 (2.5–16.8)</td>
</tr>
</tbody>
</table>

We did not observe an increase in seroprevalence with age. No significant differences were observed among age groups in either males or females.

Discussion
Individuals included in this study are at low risk for HSV-2 infection and therefore are probably representative of the general population, although not enough information was available on behaviour to substantiate this statement.

The observed seroprevalence of 5.5% is similar to the 3.6% found in Spain among males and females from the general population, and four times lower than the 21.9% found in the United States among adults from the general population.

The seroprevalence observed among military recruits is comparable with that reported by other studies conducted among individuals of a similar age, yet it is much higher than the 0.086% seroprevalence found in a previous Italian study on military recruits, based on blood samples drawn in 1981. However, these two studies used different HSV-2 antibody tests, and we cannot exclude a lower sensitivity of the older test.

Among pregnant women, the 7.6% seroprevalence observed in our study is consistent with the 8.4% seroprevalence found in northern Italy in a similar setting, yet it is lower than that reported among pregnant women in other countries, although the wide confidence interval should be taken into consideration.

In agreement with the study conducted in Spain, we found no significant sex difference in seroprevalence and no increase in seroprevalence with age.

If our data are indeed representative of the general population, then they suggest that the seroprevalence of HSV-2 infection in Italy is lower than that reported in other industrialised countries, though the comparison between our data on military recruits and that from previous studies suggests that seroprevalence may have increased in Italy over the past 20 years.

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THE ITALIAN HERPES MANAGEMENT FORUM*

Contributors: BS analysed the data and wrote the manuscript; MC conducted laboratory analyses and data input; PS collected sera and demographic information; GP conducted laboratory analyses, coordinated laboratory activities, and revised the manuscript; CS provided sera from pregnant women and from the service for prophylaxis against hepatitis B; GG provided sera from blood donors; PS provided sera from military recruits; VV collected sera, coordinated the various sources of sera samples and revised the manuscript.

The Italian Herpes Management Forum (consisting of F Boselli, R Caputo, M Cusini, S Delia, G Gentile, P Martino, G Palù, B Suligoi, A Volpi, V Vullo) designed the study and were involved in discussion of the results.

Syphilis and gonorrhoea in the Baltic countries

Introduction

Syphilis has often been a problem of great concern in many countries and not only because if untreated the disease may affect any organ, but it can also be inherited—that is, children are born with congenital syphilis.1–4 After the second world war the highest indices in Latvia were recorded in 1973 (82.6 cases per 100,000 people). With strict preventive measures the situation from 1980 to 1990 was comparatively good—5–10 cases per 100,000 inhabitants but since 1993 a dramatic increase in the incidence of syphilis has been noted again.

Methods

Syphilis was diagnosed by finding *Treponema pallidum* or by serological and immunofluorescence reactions (RPR, VDRL, TPHA, IFR abs IgM, IFA), gonorrhoea by finding gonococci and diagnosing by Gen-Probe Pace 2 and polymerase chain reaction.

Results

As seen in table 1, 1996 had the highest syphilis morbidity level over the previous 10 years; in Latvia there were 3124 cases and in Lithuania 3761, but in Estonia the highest level was in 1998, 1101.

Most alarming is the fact that the incidence of syphilis in Latvia is increasing among young people. In 1996, there were 10 cases in those aged 13–14 years and 184 cases in the age group 15–17 years; seven children were congenital. In 1998 the figure were five; 119; and seven; and 15, respectively. The highest morbidity level of gonorrhoea over the past decade was in 1993 with 4223 cases in Latvia, 5626 cases in Lithuania, and 3535 in Estonia, and it is currently still high.

Discussion

In eastern Europe the incidence of syphilis in 1996 was the following: in Russia 263 cases, Kazakhstan 231, Moldavia 200, Belorus 210, Latvia 125, Estonia 66, Lithuania 101, and morbidity was dramatically increasing.5

In the United States in the early 1990s this was connected with the high level of drug addiction—“crack” cocaine use. This is partly the situation in Latvia, as well as in the other eastern European countries where the prostituion level is also very high.6 Fluctuations in syphilis morbidity are parallel to changes in the political situation, increased migration of people, expanded import, and dissemination of pornography information in the country. Since 1993, the rise in syphilis morbidity has been due to prostitution, publicised but medically uncontrolled, and in the rapid rise in the level of unemployment, alcohol abuse, drug addiction. Advertising of prostitution is spreading. In Latvia more than 200 clubs offering services by prostitutes have sprung up although prostitution has not been legalised.7–9 Pornographic and sex literature are brought into Latvia and are widely available, lowering the morals and ethics of the population, particularly of teenagers. The same situation also exists in the neighbouring countries.10

Conclusions

In the years 1993–8 the number of cases of syphilis and gonorrhoea in Latvia, Lithuania, and Estonia was very high. A special national strategy programme to prevent further increase of syphilis, gonorrhoea, and other STDS should be developed.

Table 1 Overview of syphilis and gonorrhoea found in Latvia, Lithuania, and Estonia 1991–8

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<td></td>
<td>Total 100 000</td>
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<td>Total 100 000</td>
<td>Total 100 000</td>
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<tr>
<td>Latvia, 2.6 million population</td>
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<tr>
<td>Syphilis</td>
<td>216.8</td>
<td>273</td>
<td>10 3.1</td>
<td>30.8</td>
<td>1521</td>
<td>59.3</td>
<td>2357</td>
<td>91.9</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>2466</td>
<td>92.4</td>
<td>3309</td>
<td>125.5</td>
<td>4223</td>
<td>162.0</td>
<td>3774</td>
<td>147.1</td>
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<tr>
<td>Lithuania, 3.7 million population</td>
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<tr>
<td>Syphilis</td>
<td>186.8</td>
<td>286</td>
<td>7.72</td>
<td>694</td>
<td>18.7</td>
<td>2142</td>
<td>57.7</td>
<td>3379</td>
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<tr>
<td>Gonorrhoea</td>
<td>3071</td>
<td>82.8</td>
<td>4035</td>
<td>108.5</td>
<td>5626</td>
<td>151.7</td>
<td>5501</td>
<td>148.3</td>
</tr>
<tr>
<td>Estonia, 1.5 million population</td>
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</tr>
<tr>
<td>Syphilis</td>
<td>116</td>
<td>7.4</td>
<td>176</td>
<td>11.4</td>
<td>342</td>
<td>22.5</td>
<td>852</td>
<td>56.5</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>2299</td>
<td>146.8</td>
<td>2790</td>
<td>180.7</td>
<td>3535</td>
<td>233.1</td>
<td>3099</td>
<td>209.5</td>
</tr>
</tbody>
</table>


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