GLOBAL VIEW

HIV Subtypes

Prevalence of different HIV-1 subtypes in an urban clinic in Madrid

J C Martin, A Holguín, V Soriano

Concern about the implications of the growing proportion of circulating HIV variants in Western Europe and North America has been increasing over the past few years. Diagnostic procedures including viral load determinations and drug resistance testing may either fail or not be reliable when specimens from subjects carrying HIV-1 non-B subtypes are examined. Moreover, the efficacy of different antiretroviral compounds against non-B HIV-1 subtypes are examined. When specimens from subjects carrying HIV-1 non-B subtypes are examined, only one out of four similar outbreaks belonging to the Instituto de Salud Carlos III was selected for this purpose. A total of 902 HIV seropositive individuals were seen during the study period. Genetic subtype characterisation was performed on plasma specimens belonging to all subjects considered to be at risk for infection with non-B HIV-1 variants as well as a control group of 145 native individuals without apparent risk for exposure to non-B viruses. People considered to be at risk for non-B variants included all immigrants, as well as natives who admitted having had HIV risk practices in non-B endemic regions or with subjects originating in those regions. Moreover, subjects experiencing unexpected CD4 falls in spite of either low or undetectable plasma viraemia were tested. HIV-1 subtype characterisation was carried out by genetic sequence analysis of nested polymerase chain reaction amplicons representing the entire 297 bp HIV-1 protease gene, as described elsewhere.

A total of 73 individuals (overall prevalence 8.1%) were found to be at risk for carrying non-B subtypes. Table 1 summarises their main characteristics. Twenty eight (38.4%) of them were African immigrants. In contrast with people without risk for infection with non-B viruses, people at risk had acquired HIV infection through more frequent sexual contact (43.2% versus 33.6%, p < 0.01). Twenty seven individuals were found to be infected with HIV-1 non-B subtypes, which represented 37% of those considered at risk for infection with these variants. When African immigrants were considered separately, 71.4% of them were found to be infected with non-B subtypes. Of note, non-B subtypes were absent in all natives belonging to the control group as well as in all 14 with unexplained CD4 falls.

The results of this study suggest that the prevalence of infection with HIV-1 non-B subtypes among HIV infected people in Madrid is low (estimated overall prevalence 3%). However, up to 71.4% of African immigrants carry non-B viruses. Therefore, HIV subtyping should be requested from all HIV infected African immigrants, and testing might be recommended for natives admitting having bad risky behaviour overseas.

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References


Table 1 Main epidemiological features of the study population

<table>
<thead>
<tr>
<th>Risk group</th>
<th>No risk</th>
<th>At risk for infection with non-B subtypes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Non-Africans</td>
</tr>
<tr>
<td>Sex (male)</td>
<td>829</td>
<td>642</td>
</tr>
<tr>
<td>Mean age (years) [SD]</td>
<td>38 (7)</td>
<td>40 (6)</td>
</tr>
<tr>
<td>Number 145 Non-B subtypes</td>
<td>7 (15.5%)</td>
<td>7 (21.4%)</td>
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