Preliminary summary on oseltamivir-resistant H1N1 virus: France

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Over the 2007-2008 influenza season in the northern hemisphere influenza season, a total of 733 H1N1 viruses have been tested for oseltamivir resistance (H274Y) from France, of which 339 (46.25%) were found to be resistant.

Data by month of specimen collection:

<table>
<thead>
<tr>
<th>Month of sampling</th>
<th>Sept 07</th>
<th>Oct 07</th>
<th>Nov 07</th>
<th>Dec 07</th>
<th>Jan 08</th>
<th>Feb 08</th>
<th>Mar 08</th>
<th>Apr 08</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of H1N1 isolates tested</td>
<td>0</td>
<td>4</td>
<td>7</td>
<td>91</td>
<td>297</td>
<td>294</td>
<td>34</td>
<td>6</td>
</tr>
<tr>
<td>No. (%) of viruses resistant to oseltamivir</td>
<td>1</td>
<td>38</td>
<td>118</td>
<td>153</td>
<td>25</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specimen collection:
Collection sites consisted of outpatient clinics (90%), emergency clinics (5%) and hospitals (5%). No difference was noted for detection of resistant viruses relative to susceptible ones across sites of sample collection.

Geographical distribution:
Oseltamivir resistance prevalence has been higher in the northern and western part of the country with an average of 54.5% resistance prevalence in the north versus 37.6% in the south, and an average of 52% resistance prevalence in the west versus 30.3% in the east.

Demography:
Specimens were collected from both adults and children. There are no apparent age distribution differences between patients infected by resistant and sensitive viruses (0-80 vs 0-70 for S and R viruses, respectively). The M/F ratio was identical.

Oseltamivir use:
Of the 15 patients with infection by resistant strain for whom antiviral treatment history is available, oseltamivir was administered after the sampling.

Vaccination history:
Among patients with known recent vaccination history, there was no difference in vaccination rates between patients with resistant virus infection and patients with susceptible virus.

Clinical features:
Thus far, no differences in severity and clinical features between patients infected by resistant and sensitive viruses have been detected. This comparison was carried out in 451 patients, 247 with a susceptible virus and 204 with a resistant virus. Further investigations are in progress. No serious infections and deaths related to resistant H1N1 virus have been noted.

Special underlying conditions:
No data available

Other findings:
The percentage of resistant A(H1N1) viruses detected in France increased from 36% in week 1 of 2008 (beginning of the epidemic) to reach 61% by week 7, the last week of the A(H1N1) epidemic. This trend was observed in all regions of France.
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