—Preliminary Note—

Isolation of influenza viruses in Thailand during December, 1982—October, 1983


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We have studied influenza viruses in Thailand and Manila since 1979, and it was found that some antigenically drifted mutants of Hong Kong subtype (H3N2) of type A virus, which were isolated in Thailand, appeared in Japan a few months later. These findings suggest that the prevailing influenza virus in Japanese winter could be predicted by studying the virus in Thailand. This paper describes the isolation of influenza viruses in Thailand during December, 1982 through October, 1983.

More than 285 throat swab specimens were collected from suspected patients in Bangkok, Chiang Mai, and Hatyai during December, 1982—October, 1983 as described in Table 1. They were inoculated into the amniotic cavity of hen’s developing eggs and 36 strains of influenza viruses were isolated in the laboratories of Virus Research Institute, Bangkok, National Institute of Health, Tokyo, and Nippon Medical School, Tokyo. Methods have been described elsewhere. The virus strains were typified with hemagglutination inhibition (HI) tests using postinfection ferret antisera raised against reference strains of USSR (H1N1) and Hong Kong (H3N2) subtypes of the virus.

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Table 1  Isolation of influenza viruses in Thailand, December, 1982—October, 1983

<table>
<thead>
<tr>
<th>Specimens</th>
<th>Number</th>
<th>H1N1</th>
<th>H3N2</th>
<th>B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 8, '82—Feb. 8, '83</td>
<td>CM-STC</td>
<td>32</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Jan. '83</td>
<td>Chiang Mai</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Prior to Sep. '83</td>
<td>Bangkok</td>
<td>—</td>
<td>20</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Aug.—Oct. '83</td>
<td>Bangkok</td>
<td>—</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Aug. 4—7, '83</td>
<td>SKU</td>
<td>22</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Aug. 4—9, '83</td>
<td>HH</td>
<td>14</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Aug. 9—16, '83</td>
<td>BK-PHC</td>
<td>44</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Aug. 11—16, '83</td>
<td>CM-PED</td>
<td>45</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Aug. 11—17, '83</td>
<td>CM-IMC</td>
<td>13</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Aug. 11—17, '83</td>
<td>CM-STC</td>
<td>19</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Aug. 16, '83</td>
<td>CM-WAT</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Aug. '83</td>
<td>SIR</td>
<td>49</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Total: 250

<table>
<thead>
<tr>
<th>Location</th>
<th>Patients</th>
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</thead>
<tbody>
<tr>
<td>SKU</td>
<td>Songkla University Hospital</td>
</tr>
<tr>
<td>HH</td>
<td>Hatyai General Hospital</td>
</tr>
<tr>
<td>BK</td>
<td>Bangkok Public Health Center</td>
</tr>
<tr>
<td>CM</td>
<td>Chiang Mai</td>
</tr>
<tr>
<td>PED</td>
<td>Pediatrics</td>
</tr>
<tr>
<td>IMC</td>
<td>Internal Medicine</td>
</tr>
<tr>
<td>STC</td>
<td>Student Clinic</td>
</tr>
<tr>
<td>WAT</td>
<td>Wat School</td>
</tr>
<tr>
<td>SIR</td>
<td>Siriraj Hospital</td>
</tr>
</tbody>
</table>

Ages of patients from whom throat swabs were collected were 2—65 years in SKU, 3—32 years in HH, 0—20 years in BK-PHC, 0—14 years in CM-PED, 15—48 years in CM-IMC, 19—32 years in CM-STC, 6—9 years in CM-WAT, and 1—12 years in SIR. SKU: Songkla University Hospital, HH: Hatyai General Hospital, BK: Bangkok, PHC: Prachathipatthai Public Health Center, CM: Chiang Mai, PED: Pediatrics, IMC: Internal Medicine, STC: Student Clinic, WAT: School, SIR: Siriraj Hospital. Twenty-five strains in Bangkok were presented from Dr. K. Chatyanon, Virus Research Institute, Bangkok.

Table 2  Influenza virus strains isolated in Thailand, December, 1982—October, 1983

<table>
<thead>
<tr>
<th>Name of strain</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/Chiang Mai/St-2/82</td>
<td>UK</td>
</tr>
<tr>
<td>A/Chiang Mai/St-5/82</td>
<td>UK</td>
</tr>
<tr>
<td>A/Bangkok/1 to 20/83</td>
<td>UK</td>
</tr>
<tr>
<td>A/Bangkok/22, 24, 29, 34, 38/83</td>
<td>UK</td>
</tr>
<tr>
<td>A/Songkla/14/83</td>
<td>UK</td>
</tr>
<tr>
<td>A/Songkla/25/83</td>
<td>UK</td>
</tr>
<tr>
<td>A/Songkla/30/83</td>
<td>HK</td>
</tr>
<tr>
<td>A/Songkla/32/83</td>
<td>HK</td>
</tr>
<tr>
<td>A/Chiang Mai/6/83</td>
<td>HK</td>
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<tr>
<td>A/Chiang Mai/12/83</td>
<td>HK</td>
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<tr>
<td>A/Chiang Mai/29/83</td>
<td>HK</td>
</tr>
<tr>
<td>A/Bangkok/7/83</td>
<td>HK</td>
</tr>
<tr>
<td>A/Bangkok/81/83</td>
<td>HK</td>
</tr>
</tbody>
</table>

All strains are H1N1, except Chiang Mai/St-2/82, H3N2.
CM: Chiang Mai, UK: unknown

Among 36 strains, 35 were H1N1 and one was H3N2 as shown in Table 1. Detailed sources of the virus strains are described in Table 2. Only one strain of H3N2, A/Chiang Mai/St-2/82 was isolated from a specimen collected on December 8, 1982.

During the winter of 1982—1983 in Japan, 99% out of about 1620 isolated of influenza virus were H3N2, 1% was H1N1 and 0% was type B. On the other hand, almost all of the virus isolated in Japan prior to March, 1984 in the winter of 1983-84 were H1N1.
Therefore, prevailing of the USSR subtype (H1N1) in Thailand in 1983 actually preceded that in Japan in the winter of 1983~84.

References


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