Control of meningitis in Sudan

Following the deployment implementation of mass preventive campaign with Conjugate-A vaccines (MenAfriVac) in Sudan in 2013, cases of meningococcal meningitis caused by Neisseria Meningitidis serogroup A (NmA) has decreased substantially in the country. However, concerns remains on the possibility of outbreaks caused by new sero-group particularly serogroup C.

Editorial note

Sudan is the only country in the Eastern Mediterranean Region of WHO which is in the African Meningitis Belt and used to face repeated outbreaks of meningococcal meningitis during the dry season.

Following the implementation of mass preventive campaign using MenAfriVac (Conjugate-A vaccine) in Sudan in 2013 vaccinating close to 24.82 million people within the age group of 1 to 29 years, there has been a steady decline in the trend of reported cases of meningococcal meningitis cases in the country. (please see the graph)

The development and deployment of MenAfriVac in several countries within the African Meningitis Belt brought hope for eradication of meningococcal meningitis from the endemic belt of Africa. However, the progress was set back by the emergence of a new strain of serogroup C during the dry season in Niger and Nigeria during 2014-15.

After the widespread vaccination of people in Sudan, with serogroup A conjugate vaccine of people aged 1-29 years, the susceptible pool of unvaccinated people has increased in the country because routine vaccination against meningitis is yet to be introduced. In addition, the emergence of new strain of serogroup C in the countries of African Meningitis Belt indicate that the people in Sudan continue to remain susceptible to infection caused by this new serogroup C owing to the absence of the immunity against this new strain. This requires new surveillance and control strategies for meningococcal meningitis in Sudan in the coming days.

Number of suspected cases of meningococcal meningitis reported from Sudan, 2006-2012 and causative strain

<table>
<thead>
<tr>
<th>Year</th>
<th>No of suspected cases</th>
<th>Causative strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>2617</td>
<td>NmA and W135</td>
</tr>
<tr>
<td>2007</td>
<td>2616</td>
<td>NmA</td>
</tr>
<tr>
<td>2008</td>
<td>1281</td>
<td>NmA</td>
</tr>
<tr>
<td>2009</td>
<td>1819</td>
<td>NmA and W135</td>
</tr>
<tr>
<td>2010</td>
<td>2011</td>
<td>NmA</td>
</tr>
<tr>
<td>2011</td>
<td>754</td>
<td>NmA</td>
</tr>
<tr>
<td>2012</td>
<td>557</td>
<td>NmA</td>
</tr>
</tbody>
</table>

The seasons for outbreaks of meningococcal meningitis in the endemic belt is well defined. However, prediction of the periodicity, extent of geographical spread and emergence of new serogroup causing outbreaks remain difficult.

Although suspected cases of meningococcal meningitis have started to decline (Please see the table), it is important to establish a laboratory-based surveillance system for suspected cases of meningitis in the endemic belt of the country as well as improving the laboratory diagnostic capability for meningitis specially for serogroup C and any other new serogroup or strain. The focus should also be on community-based surveillance that would integrate community health workers with primary healthcare centers and laboratories. Such systems should be able to closely monitor any change in the trend of the disease including laboratory isolation of any new epidemic strain or serogroup.

Update on outbreaks in the Eastern Mediterranean Region

MERS-CoV in Saudi Arabia;

Current public health events of international concern (cumulative N of cases (deaths), CFR %)

- Avian Influenza: 2006-2016
  - Egypt (A/H5N1) [346 (117), 33.8%]
  - Egypt (A/H9N2) [3 (0)]

- MERS-CoV: 2012-2016
  - Saudi Arabia [1277 (549), 42.9%]
  - Jordan [39 (12), 31%]
  - Oman [7 (3), 42.8%]
  - UAE [78 (11), 14.1%]
  - Kuwait [3 (1), 33.3%]
  - Republic of Korea [186 (36), 19.3%]
  - Qatar [14 (5), 35%]
  - Iran [6 (2), 33.3%]

- Lassa fever: 2015-2016
  - Nigeria [1598 (22), 51.5%]
  - Benin [7 (2), 32.3%]

  - Guinea [3804 (2536), 66.6%]
  - Liberia [10675 (4809), 45%]
  - Sierra Leone [14124 (3956), 28%]

- Viral Haemorrhagic Fever (of unknown aetiology)
  - Sudan [535 (99), 18.5%]

  - Pakistan [360 (0)]
  - Afghanistan [47(0)]

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