Seasonal Influenza

To date (15 May), 228 specimens have been received for respiratory virus isolation. The majority (171) were from the active Viral Watch surveillance programme. Over the past 2 weeks the number of specimens received per week has started to increase. To date 7 influenza isolates have been made this season i.e. 5 influenza A (H3N2 [3], H1N1 [1]), and 2 influenza B, one of which has been further identified as B/Shanghai/361/02-like. One of the isolates was from a Viral Watch site in the Western Cape, and the remainder all from Gauteng Viral Watch sites. Patients were aged between 5 and 51 years (median 31).

Use Of Oseltamivir For Seasonal Influenza

Oseltamivir (Tamiflu®) is registered for use in South Africa.

Oseltamivir is an antiviral belonging to the neuraminidase inhibitor (NI) class of antivirals and is active against influenza A and B viruses. It is used in both the treatment and prophylaxis of influenza.

Presently Oseltamivir is the only orally formulated NI drug and has been widely stockpiled in many countries throughout the world as a precaution against a possible H5N1 pandemic. To date, resistance to the drug has been only rarely observed. Nevertheless, there is concern that widespread indiscriminate use of this drug, particularly at suboptimal dosages could lead to the generation of a more serious resistance problem. It is therefore recommended that caution should be exercised.

Indications for the use of Oseltamivir :-

1) Treatment of influenza in:-
   • Individuals with life-threatening influenza-related illness.
   • Any individual at high risk for serious complications of influenza and in whom treatment can be commenced within 2 days of onset of illness.

2) Prophylaxis in persons who are at high risk of life-threatening complications of influenza:-
   • In whom the vaccine is contraindicated.
   • In whom vaccine was given too late after exposure or outbreak (protective antibody response takes 10 to 14 days).
   • In whom the vaccine is unlikely to elicit an adequate antibody response, i.e. severe immunosuppression.

Source: Epidemiology Unit, NICD
Update on avian influenza in Africa

In Africa highly pathogenic avian influenza H5N1 has been identified in poultry in 9 countries to date. These countries include Egypt, Nigeria, Djibouti, Cote d’Ivoire, Sudan, Burkina Faso, Cameroon, Niger and most recently Ghana. Countries reporting confirmed human cases of H5N1 infection in 2007 are Nigeria and Egypt. No imported human cases of H5N1 infection in SA were reported in 2007. South Africa continues to conduct regular surveillance in poultry and wild birds. Any suspected imported cases of human infection with H5N1 should be urgently reported to the Department of Health and NICD and screened according to current guidelines.

Source: Epidemiology unit, NICD, World Health Organization (WHO) Geneva, World Organization for Animal Health (OIE)

Rabies update

No further cases of human rabies were reported this month. The total number of rabies laboratory confirmed human cases for 2007 is seven (7). Three (3) cases from KwaZulu-Natal, three (3) cases from Eastern Cape and one (1) case from Limpompo.

Source: Special Pathogens and Epidemiology units, NICD

Congenital Rubella

Congenital rubella was confirmed by PCR on urine in a 19-day-old neonate who presented to a hospital in Gauteng with jaundice, cataracts and hepatosplenomegally. A patent ductus arteriosus was shown on sonar.

The incidence of foetal defects following maternal infection in the first trimester is approximately 80% with an estimated spontaneous abortion rate of up to 20% of cases. The teratogenic abnormalities encountered in congenital rubella infection include sensorineural deafness, cataracts, choroidoretinitis, patent ductus arteriosus, ventricular septal defects, abnormalities of the aorta and pulmonary artery, microcephaly, and neurological abnormalities. The earlier in pregnancy a woman is infected with rubella, the more profound the damage to the fetus is likely to be. A pregnant woman exposed to a case of rubella or with clinical disease suggestive of rubella must be tested serologically. The demonstration of specific IgG on one serum sample is evidence of immunity. Acute rubella infection may be diagnosed by the presence of IgM antibodies. The finding of IgM antibodies should be confirmed on a second assay. Should IgG and IgM antibodies be present, IgG avidity testing should be performed in order to determine whether the infection is likely to have been recent or not. An avidity index of <30% is indicative of primary infection with rubella carrying the risk of fetal disease of 80%. An avidity index of >70% is indicative of older antibodies being present and may indicate that the patient had been re-exposed to rubella. In this case, the risk to the infant is 3-8%, with the risk being on the higher end of the range if the mother is symptomatic. If the mother tests both IgG and IgM antibody negative, the essay should be repeated in two weeks, as seroconversion may not have yet occurred.

In 2006 the NICD confirmed 2 948 cases of rubella, the largest number since case based surveillance started in 1998. The median age of patients was 7 years, (range 1 month-56 years).156 (5.29%) were females aged 12 years and older.

The estimated incidence of congenital Rubella Syndrome, from a cross sectional age-stratified rubella seroprevalence survey conducted in South Africa in 2005, was 69 per 100 000 live births (95% confidence interval 58-81). 5.5% of women sampled were sero-negative in pregnancy, ranging from 3.8% to 8.2% in various provinces. (BN Harris, NICD, personal communication).

Source: Respiratory virus and viral diagnostic unit, Epidemiology units, NICD
Focus On: Meningococcal disease

As in previous years, we expect the number of meningococcal disease cases to increase in May, and this increase to continue through the winter and spring months of the year. This seasonal pattern of disease was reflected in the numbers of laboratory-confirmed meningococcal disease cases reported to the NICD (Figure 1), and cases have been reported from all provinces in the country.

By highlighting meningococcal disease in this month’s communiqué we hope to increase awareness amongst clinical and public health practitioners to be on the look-out for such cases, to ensure that prompt therapy is instituted, notifications are urgent and streamlined, and appropriate chemoprophylaxis is given to close contacts of cases. In addition, it is essential that good epidemiological information is obtained from all cases in order to detect clusters in communities and/or institutions that may require further intervention.

W135 is the most common serogroup in Gauteng. Rapid empiric treatment should be given to all suspected cases. Ideally clinical specimens should be obtained prior to antibiotic therapy. However, lifesaving treatment should never be delayed in order to obtain specimens. Penicillin or ceftriaxone remains effective for treating patients with disease due to Neisseria meningitidis.

Meningococcal disease (both meningitis and septicaemia) is a notifiable condition in South Africa, requiring urgent telephonic notification to Local / District Health Department so that follow-up of close contacts is undertaken quickly. Cases do not need to be laboratory confirmed and clinical suspicion of meningococcal disease is sufficient for notification. Clinically a patient may present with a typical petechial rash and shock. In the laboratory a Gram stain of cerebrospinal fluid indicating Gram-negative diplococci may be sufficient for the presumptive diagnosis of meningococcal meningitis. In hospitals that have an infection control sister they should be informed of any clinically suspected or laboratory-confirmed case. The infection control sister or doctor can notify the local health authority immediately by telephone. Someone from the local health authority will then go out to the patient’s home to give post-exposure prophylaxis to all the close contacts of the case.

Close contacts are defined as household contacts, people living in the same house and/or sharing eating utensils with the index case, and persons exposed to nasopharyngeal secretions of the patient. Healthcare workers are generally not considered close contacts unless they have been directly exposed to the patient’s nasopharyngeal secretions. Antibiotics used for post-exposure prophylaxis for meningococcal disease are standard and are NOT selected on the basis of testing of individual isolates from patients.

The South African Essential Drug List (EDL) has been updated to include ciprofloxacin as an option for oral chemoprophylaxis in children. Chemoprophylaxis (see table 1) should be given to all close contacts as soon as a case is identified as it is most effective when given early and at the same time to all identified close contacts.

Table 1. Chemoprophylaxis for meningococcal disease

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Dose in non-pregnant adults*</th>
<th>Dose in children</th>
<th>Route</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ciprofloxacin</td>
<td>500mg</td>
<td>10mg/kg</td>
<td>oral</td>
<td>Single</td>
</tr>
<tr>
<td>Ceftriaxone</td>
<td>250mg (&lt;15 years) 125mg</td>
<td>intramuscular</td>
<td>Single</td>
<td></td>
</tr>
<tr>
<td>Rifampicin</td>
<td>600mg (&gt;1 month of age) 10mg/kg (&lt;1month of age) 5mg/kg</td>
<td>oral</td>
<td>Twice daily x 2days</td>
<td></td>
</tr>
</tbody>
</table>

*Close contacts who are pregnant should receive ceftriaxone 250mg intramuscularly.
Figure 1: Number of cases of meningococcal disease in South Africa as reported to the NICD by month and year (2005-2006)

References:
