

3 **VACCINE-PREVENTABLE DISEASES**

a **A case of *Haemophilus influenzae* meningitis, and review of surveillance records**

In the month of July, a one-year-old infant was admitted to a hospital in the Amajuba district, KwaZulu-Natal Province, with *Haemophilus influenzae* type b (Hib) meningitis. The infant was HIV-unexposed and had missed the 14 week and 9 month routine immunisations. The infant presented with gastroenteritis and signs and symptoms suggestive of bronchopneumonia. The clinician called the NICD hotline to enquire if post-exposure prophylaxis is required for contacts of the child.

Haemophilus influenzae is an aerobic, Gram-negative bacterium that can cause severe illness. Unimmunised children younger than 5 years of age are at an increased risk of contracting Hib, and patients with underlying chronic conditions such as HIV, asplenia, sickle cell disease, radiation therapy/haemopoietic stem cell transplants for malignant neoplasms, are at particular risk for invasive disease. The organism enters the body through the nasopharynx where organisms colonise, and may remain only transiently or for several months in the absence of symptoms, in so-called asymptomatic carriers. Hib-related mortality is mainly attributed to meningitis and pneumonia, the most severe clinical syndromes, but invasive disease may also present as epiglottitis, osteomyelitis, septic arthritis, septicaemia, cellulitis and pericarditis. Most Hib disease occurs in young children.

Following the introduction in 1999 of the Hib vaccine into the South African Expanded Programme on Immunisation (EPI), at 6, 10 and 14 weeks of age, there was a significant decrease in the number of cases of invasive Hib disease in young children, especially infants. Following concerns regarding some increases in Hib disease a few years after

vaccine introduction, a booster Hib dose was added to the vaccine schedule at 18 months.

In 2015, a total of 322 laboratory-confirmed invasive *H. influenzae* cases was identified by the NICD surveillance system. In children <5 years of age only 21% (17/82) of disease was due to Hib and 65% (11/17) of these children had not received two or more doses of Hib vaccine at the time of admission. Of the remaining 6 children, 5 had underlying medical conditions.

Following confirmation of invasive illness due to *influenzae* type b, post-exposure prophylaxis (PEP) is required for all household contacts who are less than 10 years of age, or who are pregnant, or immunocompromised or asplenic. Rifampicin 20mg/kg (max 600mg) once daily for 4 days - for children >3months and adults, or 10mg/kg once daily for 4 days for children <3 months, should be given. In addition, children <10 years should be vaccinated against Hib if not already, and other vaccinations should be updated.

It is vital for clinicians to ensure that children receive all appropriate vaccine doses, and continue to report all cases of Hib. We also encourage all microbiology laboratories to report cases to the NICD and send isolates or specimens for identification and serotyping as part of ongoing national surveillance.

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