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### Pneumococcal serotyping for surveillance of invasive pneumococcal diseases in Singapore, 2011

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**Background:** We report data from pneumococcus serotyping performed by the National Public Health Laboratory (NPHL) and the KK Women's and Children Hospital (KKH) from January to December 2011 within the framework of the nationwide pneumococcus surveillance programme in Singapore. The aim of the programme is to serotype invasive pneumococcal isolates collected from the whole of Singapore and to monitor the serotype distribution of invasive pneumococcal disease (IPD) among Singapore population.

**Methods:** Six public hospitals in Singapore sent *Streptococcus pneumoniae* isolates from sterile site cultures, e.g. blood, cerebrospinal fluid (CSF), pleural and peritoneal fluid, to NPHL for serotyping. The microbiology laboratory at KKH serotyped their invasive pneumococcal isolates. Serotyping was performed on fresh culture isolates using the Pneumotest kit (Statens Serum Institut, Copenhagen, Denmark) which consisted of 12 pneumococcal pool antisera and different factor antisera.

**Results:** Of 116 *Streptococcus pneumoniae* isolates, 93 (80.2%) were serotyped by NPHL and 23 (19.8%) were serotyped by KKH. The majority of isolates (90.5%) were obtained from blood culture specimens. The numbers of invasive pneumococcal isolates from paediatric and adult patients were 28 (24.1%) and 88 (75.9%), respectively. The most common serotypes observed among children were type 19A (11 cases, 39.3%) and type 14 (6 cases, 21.4%). The numbers of paediatric IPD cases that would be covered by PCV7, PCV10 and PCV13 were 9 (32.1%), 9 (32.1%) and 23 (82.1%), respectively. The non-PCV13 serotypes seen were 6C, 15 and 23A. Among adults, there was a wider serotype distribution than in children. The most common serotypes among adult cases were 3, 6B, 8 and 14, which accounted for 51.1% of all adult IPD cases.

**Conclusion:** Our results showed that the most predominant serotype observed among paediatric cases was 19A which is not covered by PCV7 vaccine. Since PCV13 was introduced in Singapore's childhood immunization programme in December 2011, the majority of IPD paediatric cases were either immunized with PCV7 or not vaccinated. Continued surveillance is necessary to detect emerging serotypes after the introduction of 13-valent pneumococcal vaccine.

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### Leprosy, still present in La Réunion

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**Background:** During recent decades, a considerable and consistent decrease in worldwide incidence of leprosy has been observed. Despite proximity of endemic countries, the situation in La Réunion (a French overseas department in Indian Ocean) is poorly documented. In that context, a specific surveillance system for leprosy was implemented in order to determinate incidence of leprosy and characterizing the patients affected.

**Methods:** The surveillance system was based on the notification of every case by health professionals likely to diagnose and treat subjects according to the WHO case definition. The notification was realized through a standardized questionnaire that included sociodemographic, clinical, and microbiological data.

**Results:** In total, 17 patients were reported during 2005–2010. The mean annual incidence during this period was 3.4 cases/106 inhabitants. The male:female sex ratio was 2.2, and the median age was 54 years (range 8–77 years). More than half the patients were born in La Réunion (n = 9); among them, 6 had never left the island, 3 had traveled but had always resided in La Réunion, and 6 patients resided in the same area of a city in the southwestern part of the island. Clinical signs suggested multibacillary leprosy (>5 patches or lesions on the patient's skin) for 15 patients and paucibacillary leprosy (1–5 patches or lesions on the skin) for 2 patients. Four patients had a severe disability with a grade 2.

**Conclusion:** Although elimination of leprosy was achieved in La Réunion, the implementation of a leprosy surveillance system enabled us to highlight an autochthonous circulation of *Mycobacterium leprae*, leading to a cluster of cases recently diagnosed in the southwestern part of the island. During the investigation of this cluster, it was noticed that most of the doctors were unaware of the existence of leprosy in La Réunion or of the disease's clinical signs. Incidence of leprosy could therefore be largely underestimated because of this lack of knowledge, and actions to raise awareness among health care professionals will be established to improve the detection and rapid treatment of patients.

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