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Decline in the incidence of invasive pneumococcal disease at a medical centre in Taiwan, 2000-2012

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**Objectives:** It is essential to investigate the serotype distribution of pneumococcal diseases in each region and its associated clinical features. This study investigated the annual incidence of invasive pneumococcal disease (IPD) and the distribution of serotypes of isolates causing IPD at a medical center in northern Taiwan during the period 2000 to 2012.

**Methods:** Serotypes of all available *Streptococcus pneumoniae* isolates causing IPD were determined using the latex agglutination test.

**Results:** During the study period, the annual incidence (per 10,000 admissions) of IPD decreased significantly from 9.8 in 2000 to 2.1 in 2012 ( $P < 0.001$ ). The annual incidence of all-cause bacteremia, primary pneumococcal bacteremia, bacteremic pneumonia, peritonitis, and meningitis also decreased significantly during the study period ( $P < 0.05$ ). In contrast to the decrease in annual incidence of pneumococcal serotypes 14, 23F and 6B, the incidence and the proportion of serotype 19A significantly increased with time ( $P < 0.001$ ). The coverage rate of 7-valent protein conjugated vaccine (PCV-7) and PCV-10 decreased significantly; however, the coverage rate of PCV-13 and pneumococcal polysaccharide vaccine (PPV-23) remained stable over time. Serotype 14 and 19A isolates were commonly isolated from blood and pleural effusion, respectively. Serotypes 14 and 23F were the two most common serotypes found in adult patients, and serotypes 14 and 19A were the two most common serotypes isolated from children.

**Conclusions:** Although the incidence of IPD has decreased, serotype 19A is an emerging problem in Taiwan. The distribution of serotypes of pneumococci varied with clinical symptoms and age. As the changing distribution of pneumococcal serotype with time, the coverage rate of pneumococcal vaccines would be different.