

# Pneumococcal Meningitis at King Chulalongkorn Memorial Hospital

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**Background:** Acute bacterial meningitis, an emergent medical illness, is usually caused by *Streptococcus pneumoniae*. There has been an increasing incidence of drug-resistant *S. pneumoniae* worldwide. The present study was aimed to determine the epidemiology, clinical manifestations, microbiology, and treatment outcomes of all patients with pneumococcal meningitis hospitalized at King Chulalongkorn Memorial Hospital (KCMH), Bangkok, Thailand.

**Patients and methods:** A retrospective study was carried out in all patients with meningitis caused by microbiologically confirmed *S. pneumoniae* who were hospitalized at KCMH from January 2003 to December 2010.

**Results:** Of 25 patients, there were 18 (72%) adults (age of greater than 15 years) and 7 (28%) children. There were 10 (40%) males and 15 (60%) females. There were 18 (72%) patients with preexisting conditions including HIV infection (6 patients, 24%), post-neurological procedures (3, 12%), cerebrospinal fluid (CSF) leakage (3, 12%), and multiple myeloma (2, 8%). Of 25 patients, there were 19 (76%) community-acquired and 6 (24%) healthcare-

associated infections. The mean duration of the illness before hospitalization was  $2.75 \pm 0.21$  days. The most common presenting symptom was fever (23 patients, 92%), followed by headache (15, 60%) and vomiting (13, 52%). Fourteen (56%) patients presented with complete triad of meningitis (fever, headache, and meningeal irritation signs). There were 16 (64%) and 17 (68%) patients with positive Gram stain and culture in the CSF, respectively. Of 25 isolates, there were 15 (60%) and 10 (40%) penicillin-susceptible and -resistant *S. pneumoniae*, respectively. Twenty (80%), 4 (16%), and 1 (4%) isolates were cefotaxime-susceptible, -intermediate, and -resistant *S. pneumoniae*, respectively. The overall mortality was 12% (3 adults).

**Conclusions:** To our knowledge, this is the first study to determine the epidemiology, clinical manifestations, and microbiology of all patients with pneumococcal meningitis at KCMH. There is the high prevalence of penicillin-resistant *S. pneumoniae* meningitis in our institute, requiring an urgent need to strengthen both appropriate use of antimicrobials and strict infection control measures.

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