

Neonatal infections in China, Malaysia, Hong Kong and Thailand.

[Al-Taiar A](#), [Hammoud MS](#), [Cuiqing L](#), [Lee JK](#), [Lui KM](#), [Nakwan N](#), [Isaacs D](#).

Source

Department of Infectious Diseases and Microbiology, Children's Hospital at Westmead, Sydney, NSW, 2145, Australia; davidi@chw.edu.au.

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Abstract

OBJECTIVE: Neonatal sepsis is a major cause of neonatal deaths in Asia but data remain scarce. We aimed to investigate the causative organisms and antibiotic resistance in neonatal care units in China, Malaysia, Hong Kong and Thailand.

METHODS: Prospective cohort study of neonatal sepsis defined as positive culture of a single potentially pathogenic organism from blood or cerebrospinal fluid differentiated into early-onset sepsis (EOS) occurring <3 days of birth and late-onset sepsis (LOS) \geq 3 days after birth.

RESULTS: During the study period, there were 963 episodes of neonatal sepsis. The incidence of EOS was 0.62 (95% CI 0.45 to 0.82) per 1000 live births or 4.91 (95% CI 4.22 to 5.68) per 1000 admissions while the incidence of LOS was 5.00 (95% CI 4.51 to 5.53) per 1000 live births or 21.22 (95% CI 19.79 to 22.77) per 1000 admissions. The incidence of Group B Streptococcus (GBS) sepsis was low but remained the most common single pathogen for EOS among inborn babies. Klebsiella spp. was the most common Gram-negative organism causing most deaths. The case-fatality was 7.0% (95% CI 3.9% to 12.0%) for EOS and 16.0% (95% CI 13.7% to 19.0%) for LOS, and was significantly different between participating units after adjusting for potential confounders. Of all Gram-negative organisms, 47%, 37% and 32% were resistant to third-generation cephalosporins, gentamicin or both, respectively.

CONCLUSIONS: The pattern of EOS in Asian settings is similar to that in industrialised countries with low incidence of GBS sepsis. The important features of neonatal sepsis in Asia are the burden of Klebsiella spp. and high level of antibiotic resistance. These should be addressed while developing measures to reduce neonatal mortality due to infection.

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