

## Epidemiology and Bacterial Pathogens of Neonatal Sepsis in Very-Low Birthweight Infants or Less Than 32 Week's Gestation

Wansa Lertsatira, Ratchada Kitsommart

Department of Pediatrics, Faculty of Medicine, Siriraj Hospital, Mahidol University,  
Bangkok, Thailand

**Background:** Local data on the epidemiology and antimicrobial susceptibility pattern of bacterial pathogens of neonatal sepsis is important for antibiotics stewardship program.

**Objective:** To determine the incidence and types of bacterial pathogens of neonatal sepsis in very-low birthweight (VLBW) infants or <32 week's gestation.

**Methods:** Individual retrospective chart review of infants birthweight <1500g or <32 week's gestation admitted to Siriraj Hospital from January 1<sup>st</sup>, 2014 to 31<sup>th</sup> December 31<sup>st</sup>, 2018 were extracted for pre-specified outcomes related to neonatal sepsis.

**Results:** Of the 548 eligible infants, 475 (86.7%) infants had neonatal sepsis. The incidence of early-onset sepsis (EOS) and late-onset sepsis (LOS) were 62.6% and 58%, respectively. Only 1 infants of EOS group had positive blood culture while 20 infants (6.3%) of LOS were culture-proven sepsis. Coagulase-negative *Staphylococci* (CoNS) was the most common pathogenic bacteria (65%) which was susceptible to vancomycin followed by *Escherichia coli* (20%) and *Klebsiella pneumoniae* (15%) which were susceptible to cefotaxime and amikacin. Neonatal sepsis was significantly associated with lower mortality rate but higher rates of intraventricular hemorrhage, bronchopulmonary dysplasia, retinopathy of prematurity, and necrotizing enterocolitis particularly in those who had both EOS and LOS.

**Conclusion:** Our incidence of EOS and LOS in VLBW infants were 62.6% and 58%, respectively. The most common bacterial pathogen was CoNS and followed by gram-negative bacteria. There was no multidrug-resistant strain in any pathogens.

**Keywords:** early-onset sepsis, late-onset sepsis, neonatal sepsis, pathogens, very-low birthweight infant

