
Abstract:

Objective: Organisms causing early-onset neonatal sepsis (EONS) have consistently changed over time. The distribution of organisms in EONS helps to influence the appropriate type of antibiotic prophylaxis strategy during labor and the antibiotics used in neonates with suspected sepsis.

Study Design: To compare the organisms distribution for EONS between 2003 and 2008 for infants admitted to neonatal intensive care units (NICUs) in Canada. Data were retrieved from infants with a positive bacterial blood or cerebrospinal fluid culture in the first 72 hours after birth who were admitted to NICUs participating in the Canadian Neonatal Network from 2003 to 2008. Comparisons of incidence rate, demographics and causative organisms were carried out between earlier cohort (2003 to 2005) and later cohort (2006 to 2008).

Result: A total of 405 infants had positive blood and/or cerebral spinal fluid cultures over the study period. The EONS rate was 6.8/1000 admissions (n=24969) in the earlier cohort compared with 6.2/1000 admissions (n=37484) in the later cohort (P=0.36). Rate of clinical chorioamnionitis was higher in the later cohort (38 vs 26%; P=0.02). For term infants, coagulase-negative Staphylococcus (CONS) (2.4/1000) followed by group B Streptococcus
(GBS) (1.9/1000) were the most common organisms identified. For preterm infants, CONS (2.5/1000) followed by Escherichia coli (2.6/1000) were the most common organisms identified. There was a significant reduction in GBS EONS over time (P

Conclusion: Although the rate of EONS among neonates admitted to NICUs has not changed, the pattern of infection has changed over the past 6 years. With the increased use of prophylactic antibiotics to mothers, careful surveillance of the changing trend of bacterial organisms among neonates is warranted.