To study the clinical features and pathogenic bacteria of late-onset sepsis (LOS) in very low birth weight (VLBW) and extremely low birth weight (ELBW) infants” Liu and Tong (2019).

Abstract:

OBJECTIVE: To study the clinical features and pathogenic bacteria of late-onset sepsis (LOS) in very low birth weight (VLBW) and extremely low birth weight (ELBW) infants.

METHODS: Among the VLBW/ELBW infants with a gestational age of <32 weeks who were admitted to the hospital between January 2012 and December 2016, those with LOS were enrolled as the LOS group, and those without sepsis were matched for the infant with LOS in gestational age were enrolled as the control group. According to the presence or absence of in-hospital death, the LOS group was further divided into a death subgroup and a survival subgroup. Risk factors for LOS, clinical features, distribution of pathogenic bacteria, drug resistance, and high-risk factors for LOS-related death were analyzed. RESULTS: A total of 513 VLBW/ELBW infants were enrolled, and there were 65 infants in the LOS group and 130 in the control group. The incidence rate of LOS was 12.7%. In the LOS group, 6 infants died and 59 survived. Compared with the control group, the LOS group had a significantly lower birth weight (P<0.05) and significantly longer indwelling time of peripherally inserted central catheter (PICC), duration of mechanical ventilation, and length of hospital stay (P<0.05). Compared with the control group, the LOS group had a significantly higher proportion of small-for-gestational-age infants, infants undergoing mechanical ventilation, infants with
neonatal necrotizing enterocolitis, or infants who died (P<0.05). Low birth weight, small-for-gestational-age infant, and long indwelling time of PICC were independent risk factors for LOS in VLBW/ELBW infants (OR=1.396, 2.550, and 1.068 respectively, P<0.05). Purulent meningitis was an independent risk factor for LOS-related death in VLBW/ELBW infants (OR=13.443, P<0.05). A total of 65 strains of pathogenic bacteria were cultured in the LOS group, among which there were 39 strains (60%) of Gram-negative bacteria, including 15 strains producing extended spectrum beta-lactamases (ESBLs), and antibiotics were applied for 67% (10/15) of the ESBL strains within 2 weeks before the onset of LOS. The rate of antibiotic use for ESBL strains was significantly higher than that for non-resistant strains [67% (10/15) vs 29% (7/24); P<0.05]. CONCLUSIONS: Low birth weight, SGA infant, and long indwelling time of PICC are independent risk factors for LOS in VLBW/ELBW infants, and death tends to occur in LOS infants with purulent meningitis. Most pathogenic bacteria of LOS are Gram-negative bacteria, and use of antibiotics within 2 weeks before disease onset may increase the risk of ESBL strain infection.

You may also be interested in...

Patterns of phlebotomy blood loss in extremely low birth weight infants
Femoral venous catheter in extremely low-birth-weight infants
Multidisciplinary approach to improve sepsis outcomes

Reference: