Abstract:

OBJECTIVE: To investigate the incidence of nosocomial infections of extremely premature infants and to explore the risk factors and strategies for infection control.

METHOD: There were 118 extremely premature infants who were confirmed to have nosocomial infection in neonatal intensive care unit of the authors’ hospital from January 2008 to December 2012. Their data of the infection rate, risk factors and clinical characteristics were retrospectively analyzed.

RESULT: During the study, nosocomial infection occurred in 78 extremely premature infants 129 times. The nosocomial infection rate was 66.10%. The rate of ventilator-associated pneumonia (VAP) was 1.43% (35/2452). The catheter related blood stream infection (CRBSI) rate was 0.35% (16/4613). There were 74 (57.36%) cases of pneumonia, which was the most common nosocomial infection of extremely premature infants. There were 35 cases of VAP, which accounted for 47.30% of pneumonia. The next was sepsis, 48 cases. Seventy-four (74/90, 82.22%) strains of isolates were Gram-negative bacteria, which accounted for the highest proportion, followed by Gram-positive (12 strains), fungus (4 strains); Klebsiella pneumonia is the most common pathogens of nosocomial infection in extremely premature infants. The isolation rates of Klebsiella pneumonia with positive extended-spectrum beta-lactamases (ESBL) were 90.91% (20/22), universally resistant to cephalosporins. Single-factor analysis showed that the body weight, mechanical ventilation, umbilical vein catheterization, central venous catheter, parenteral nutrition and hospitalization time were risk factors for nosocomial infections in extremely preterm infants. Logistic regression analysis showed that length of hospitalization (OR = 1.024, P = 0.043) and central venous catheterization (OR = 6.170, P = 0.041) were independent risk factors of nosocomial infection.

CONCLUSION: Extremely preterm infants were at higher risk of nosocomial infection. It is important to identify the high risk factors for nosocomial infections in extremely premature infants. To shorten time for mechanical ventilation, central venous catheterization and hospitalization days would be conducive to reducing the morbidity of nosocomial infection.

Reference: