

Risk factors associated with necrotizing enterocolitis in very low birth weight infants in Malaysian neonatal intensive care units.

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Singapore Med J. 2012; 53(12): 826-31

Abstract

INTRODUCTION:

This study aimed to identify the risk factors associated with necrotizing enterocolitis (NEC) in very low birth weight (VLBW; weight < 1,501 g) infants in Malaysian neonatal intensive care units (NICUs).

METHODS:

This was a retrospective study based on data collected in a standardized format for all VLBW infants born in 2007 (n = 3,601) and admitted to 31 NICUs in Malaysian public hospitals. A diagnosis of NEC was made based on clinical, radiological and/or histopathological evidence of stage II or III, according to Bell's criteria. Logistic regression analysis was performed to determine the significant risk factors associated with NEC.

RESULTS:

222 (6.2%) infants developed NEC (stage II, n = 197; stage III, n = 25). 69 (31.3%) infants died (stage II, n = 58; stage III, n = 11). The significant risk factors associated with NEC were: maternal age (adjusted odds ratio [OR] 1.024, 95% confidence interval [CI] 1.003-1.046; p = 0.027), intrapartum antibiotics (OR 0.639, 95% CI 0.421-0.971; p = 0.036), birth weight (OR 0.999, 95% CI 0.998-0.999; p < 0.001), surfactant therapy (OR 1.590, 95% CI 1.170-2.161; p = 0.003), congenital pneumonia (OR 2.00, 95% CI 1.405-2.848; p < 0.001) and indomethacin therapy for the closure of patent ductus arteriosus (PDA) (OR 1.821, 95% CI 1.349-2.431; p = 0.001).

CONCLUSION:

Increasing maternal age, decreasing birth weight, surfactant therapy, congenital pneumonia and indomethacin therapy for the closure of PDA were associated with an increased risk of NEC in Malaysian VLBW infants. Infants that received intrapartum antibiotics were associated with a reduced risk of developing NEC.