

BRONCHOPULMONARY DYSPLASIA IN VERY LOW BIRTH WEIGHT INFANTS WITH HISTOLOGICAL CHORIOAMNIONITIS: A CASE-CONTROL STUDY

S. Vedovato¹, H. Simeunovic¹, F. Cavallin², S. Chiarelli³, V. Zanardo¹

¹Neonatal Intensive Care Unit, Department of Pediatrics, ²Department of Pediatrics, ³Department of Oncological and Surgical Sciences (Section of Pathology), Padua University, Padua, Italy

Background and aims: Histological chorioamnionitis (HCAM) has been associated with inflammatory diseases of preterm infants. The aim of this study was to evaluate the effect of HCAM on respiratory outcome of VLBWI.

Methods: Between 2001 and 2010, we performed a double blind, case-control study on VLBWI admitted to our NICU. Each patient with HCAM was matched with one control without HCAM, of the same gestational age \pm 1 week. The incidence of need for supplemental oxygen for at least 28 days after birth (DAB) and of BPD at 36 postmenstrual weeks were studied. The following risk factors were evaluated: birth weight (BW), surfactant administration, patent ductus arteriosus, mechanical ventilation (MV), early and late sepsis, and postnatal steroids administration.

Results: We enrolled 234 newborns. Comparing HCAM vs no-HCAM infants groups, 39 (33%) vs 35 (30%) presented need for supplemental oxygen at 28 DAB ($p=0.19$), and 32 (27%) vs 43 (37%) presented BPD/death ($p=0.25$). In multivariable analysis, HCAM and prolonged MV revealed a greater risk of need for supplemental oxygen at 28 DAB: OR respectively 3.25 (95% CI 1.25-8.45), $p=0.02$ and 0.99 (95% CI 0.98-0.99), $p=0.04$, while a greater BW was protective: OR 1.15 (95% CI 1.08-1.22), $p<0.0001$. Furthermore, a prolonged MV showed a greater risk of BPD/death: OR 0.81 (CI 0.70-0.98), $p=0.03$, while a greater gestational age was protective 1.05 (CI 1.02-1.09), $p<0.004$.

Conclusions: HCAM, lower BW, and prolonged MV increase the risk of need for supplemental oxygen at 28 DAB, while only lower gestational age and prolonged MV increase the risk of BPD in VLBWI.