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## Poster Abstracts

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#### FETAL INFLAMMATION INCREASES THE RISK FOR EARLY ONSET OF PERI-INTRAVENTRICULAR HEMORRHAGE IN PREMATURE INFANTS

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**Objective:** To examine the association between placental infection and/or fetal inflammation and the onset of peri-intraventricular hemorrhage (P/IVH) in a cohort of premature infants.

**Methods:** A prospective study included 125 infants with gestational age 27.0 weeks (range 23-29 weeks), born consecutively during a 22-month period. Placentas were examined for the presence of chorioamnionitis, and umbilical blood was sampled for the measurement of interleukins (IL)-6 and IL-8. For the prediction of any P/IVH, cutoff levels 7.6 pg/mL for IL-6 and 430 pg/mL for IL-8 were chosen by receiver-operating characteristic curve analysis. Antenatal, perinatal and neonatal characteristics were obtained from medical records. P/IVH was defined as early if diagnosed on the 1st day of ultrasound examination; thereafter P/IVH was defined as late.

**Results:** Infants with early P/IVH (n=25) did not receive complete course of antenatal steroids, needed resuscitation at birth, frequently acquired early sepsis, and had increased levels of interleukins in cord blood. On the contrary, respiratory distress syndrome, low blood pressure, use of mechanical ventilation, and vasopressors, but not interleukins, were associated with late P/IVH (n=21). In multivariate analysis only vaginal delivery (OR=3.1) and resuscitation at birth (OR=4.0) remained independent predictors for early- and use of vasopressors (OR=3.4) for late P/IVH. The presence of fetal inflammation and failure to complete antenatal steroid administration further increased the risk of early P/IVH.

**Conclusions:** The data from this study suggest that vaginal delivery and resuscitation at birth increase the risk of early P/IVH among premature infants with less than 30-week gestation. These two factors interact with fetal inflammation and lack of antenatal steroid administration to further increase the risk of early P/IVH.