

## PERIVENTRICULAR PSEUDOCYSTS IN NEWBORNS AND THEIR EFFECT ON NEURODEVELOPMENTAL OUTCOME AT 18 MONTHS

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**Objectives:** Periventricular pseudocysts (PP) are increasingly diagnosed on neonatal cranial ultrasounds. Associations with underlying disease are reported, if isolated the prognosis is good. Confusion with cystic periventricular leucomalacia (c-PVL) is frequent. Our purpose was to follow the neurodevelopmental outcome (NDO) of patients with PP.

**Methods:** We prospectively enrolled newborns with PP admitted to our NICU between 2003 and 2009. Neurodevelopment was assessed at 6 and 18 months.

**Results:** 73 newborns had PP: 64% were girls, 48% were prematures, 29 % were twins, 41 % had a brain MRI (diagnosis of c-PVL in 30%). 21% were exposed to medications/drugs during pregnancy, 10 % had placental abruption. Two subtypes of PP were identified: Frontal horn cysts (FHC) and germinolytic cysts (GC). 68% were GC, 30% FHC, 2% had both. Eleven patients had persistent abnormal neurological exam. Three died (two mitochondriopathies, one Zellweger Syndrome). Four had symptomatic CMV infection, four a genetic syndrome. Of these sick patients, nine had GC, two had FSC. Mean Developmental Quotient of the remaining patients was 95.5+/-10 at 6 months and 92.2+/-9.3 at 18 months with no difference between subtypes.

**Conclusion:** Short term NDO of newborns with PP was normal when no underlying disease was suspected. Although we describe an association with medication/drug use and adverse events during pregnancy, the pathophysiological mechanism remains unknown. This study suggests that if neurological examination is normal at birth and urinary CMV PCR negative, no further investigations are needed. Moreover, it is crucial to differentiate PP from c-PVL which has a poor prognosis.