

## THE IMPACT OF NEONATAL MORBIDITIES ON SMOOTH PURSUIT EYE MOVEMENTS IN VERY PRETERM INFANTS

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**Background:** Infants born very preterm (VPT) i.e.< 32w gestational age (GA) have increased risk of developing impaired visual perception. Previously we have found that visual motion perception in VPT infants, evaluated by smooth pursuit eye movements (SP) was significantly reduced at both 2 and 4 months corrected age (CA) compared to term infants. SP are essential for perception of the moving environment in daily life.

**Aim:** This study aimed to evaluate the impact of major neonatal complications on smooth pursuit eye movements in a group of VPT infants.

**Methods:** 81 VPT infants were investigated. Visual motion perception was analyzed as the infants tracked a horizontally oscillating object. SP at 2 and 4 months CA were evaluated and correlated to the presence of major neonatal complications i.e. bronchopulmonary dysplasia (BPD), retinopathy of prematurity (ROP), intraventricular haemorrhage >grade2 (IVH) and periventricular leukomalacia (PVL).

**Results:** At 4 months CA univariate analysis showed lower SP in infants diagnosed with BPD (p= 0.001), PVL (p=0.021) or ROP (p=0.028). No difference was found for IVH>2. The outcome at 2 months CA was not affected except for infants with ROP>grade2 (p=0.001).

Additionally a regression analysis showed that the negative impact on SP was enhanced at 4 months CA when adding these neonatal complications (R=-0,409, p=0.000).

**Conclusion:** Neonatal morbidity showed impact on visual motion perception evaluated by SP in VPT infants at 4 months CA. When adding major neonatal complications the impact on SP was more pronounced.