

REGIONAL CEREBRAL OXYGEN SATURATION IN PRETERM NEONATES. CORRELATIONS WITH OUTCOME AT 18 MONTHS CORRECTED AGE

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Aim: To investigate if there is a correlation between rSO₂ values detected by NIRS and neuromotor and behavioral outcome of premature neonates at 18 months corrected age.

Material and method: 9 premature neonates (mean birth weight 1800 grams, mean gestational age 31 weeks) were monitored with Near Infrared Spectroscopy using INVOS during the first 72 hours of life. Outcome at 18 months corrected age was assessed by using Amiel Tison Neurological Examination and Bayley III test. rSO₂ was correlated with the results of these tests.

Results: A period of at least 30 minutes of rSO₂ lower than 50% during the first 24 hours of life was significantly correlated with the presence of the motor deficit: inability to walk independently at 18 months corrected age ($p < 0.001$); significantly lower postural tone ($p < 0.005$) and with a score in Bayley gross motor subtest under 85% for the corrected age ($p < 0.001$) and in the fine motor subtest under 80% for the corrected age ($p < 0.03$). There were not noted statistically significant differences regarding the cognitive and language subtests.

Conclusions: Lower rSO₂ during the first 24 hours of life was significantly associated with motor deficit and with lower scores in the gross motor and fine motor subtests in the Bayley scale