Threatened preterm labor: risk factor for impaired cognitive development in early childhood

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Objective
The aim of this study was to evaluate threatened preterm labor during pregnancy as an independent risk factor of neurodevelopmental deficits of children at 2 years of age.

Methods
Two-year-old children born late preterm (n=22) or at term after threatened preterm labor (n=23) were compared with at-term control children (n=42). Neurodevelopment was evaluated at a corrected age of 24-29 months using the Merrill-Palmer-Revised Scales of Development. Chi-square tests and analysis of variance (ANOVA) were used to analyze categorical and continuous variables, respectively. Significant effects were followed by Bonferroni post-hoc tests. Effect sizes were calculated using odds ratios (ORs) and 95% confidence intervals (CIs).

Results
Children born at term after threatened preterm labor had lower scores than control children on global cognitive index (95.4 vs. 104.2; p=0.011), cognition (95. 1 vs. 103. 1; p=0.021), fine motor (95.2 vs. 103. 4; p=0.003), gross motor (84.7 vs. 99.8; p=0.001), memory (92.9 vs. 100.4; p=0.015), receptive language (93.9 vs. 102.9; p=0.03), speed of processing (105.7 vs. 113.3; p=0.011), and visual motor coordination (98.8 vs. 106.7; p=0.003) subtests. Children born at term after threatened preterm labor had an increased risk of mild developmental delay compared with control children (odds ratio for global cognitive index=5.35; 95% confidence interval: 1.63, 17.60; p=0.004).

There were no significant differences in any cognitive domain between children born late preterm and children born at term after threatened preterm labor.

Conclusion
Threatened preterm labor is a risk factor for impaired cognitive development at 2 years of age, even if birth occurred at term. We consider that “false preterm labor” is not always a benign condition.