



## Maternal serum nitric oxide metabolites as a predictive factor of premature delivery

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### Objective

The aim of the study was to establish the relation between NO concentration in serum and uterine activity before 37 weeks of gestation in pregnancies with premature delivery. Correlations between serum levels of NO, C-reactive protein (CRP) and hemoglobin were also studied.

### Methods

The examined group included 55 primigravidae between 18-35 years and 24-37 weeks of gestation with diagnosis of preterm delivery and 35 gestational- and age-matched women with uncomplicated pregnancies. The maternal serum NO concentration was determined by colorimetric method using a multispecies ELISA kit. In this assay the total nitrite (nitrites and nitrates) was analyzed as indicator of NO production.

### Results

The maternal serum concentration of NO in each group of women with premature delivery were significantly lower compared to the control group ( $p < 0.05$ ). The lowest concentrations of NO were observed in the group of patients with spontaneous uterine activity without premature rupture of membranes (PROM) in comparison to the other groups with imminent premature delivery and to the control group. The levels of CRP and hemoglobin were within the physiological range and correlated positively with NO concentrations ( $r = 0.635$ ,  $p = 0.015$ ,  $r = 0.484$ ,  $p = 0.035$  respectively) in all women included in the study.

### Conclusion

The decreased levels of NO in patients with preterm labor were not associated with subclinical infection but may be with initiation of uterine contractions before 37 weeks of gestation.