The role of PAMG-1 protein and ultrasound cervicometry in detection of spontaneous preterm labour

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Context: Symptoms and signs of the premature labor (PTL) are very common in pregnancy; however symptoms and clinical evaluation alone do not accurately predict the probability of preterm delivery and the need for admission and treatment.

Objective: The objective of this study was to define the objective criteria based on the TVU examination and biochemical markers to predict probability of the PTL in order to reduce the number of unnecessary admissions.

Methods: Patients were assessed with the standard clinical examination, cardiotocography and TVU. Placental a-microglobulin-1 (PAMG-1) was detected in the vaginal secretion with the PartoSure time-to-delivery (TTD) test (AmniSure Int, USA)

Patients: 49 women 290/7 - 346/7 GA with the symptoms of spontaneous preterm labor (10 contractions per hour median, interquartile range 5 - 13)

Intervention(s): All patients received the standard PTL management (corticosteroids, magnesium, tolootyltics)

Main Outcome Measure: Cervical length (CL) defined by TVU and the result of the PartoSure test were compared with the time-to-delivery interval.

Results: Based on the CL all the patients were divided in 3 groups: <15 mm - 3 (6%), 15-30 mm - 42 (85%), >30 mm - 4 (8%). PartoSure test was positive in patients from the 1st group. 2 patients from the 1st group delivered in 7 days. 1 patient delivered in 18 days at term. In the 2nd group only 1 patient was PartoSure positive and she delivered within 7 days. No one else in the 2nd group delivered within 14 days. In the 3rd group no patients delivered within 14 days. The correlation between PartoSure test and the CL was (r = -0.47, p <0.05). The test predicted PTL within 14 days with 100% SN, 98% SP, 75% PPV and 100% NPV.

Conclusions: PartoSure test can be used to predict PTL probability in patients with the borderline CL (15-30 mm) and to support the further admission and treatment decision.