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PAMG-1 biomarker test (PARTOSURE) in combination with transvaginal ultrasound for improved assessment of spontaneous preterm birth in patients with threatened preterm labor

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Introduction: Patients presenting to the hospital with signs and symptoms of preterm labor undergo cervical length measurement via transvaginal ultrasound (CL) to evaluate the risk of imminent spontaneous birth. However, it has been shown that CL <25 mm alone has limited value in prediction of PTB, and may benefit from an addition of a biomarker when cervical length is equivocal (15-30 mm). PARTOSURE, based on PAMG-1 biomarker, is a novel test that has been shown to improve diagnostic accuracy in patients with tPTL and a short cervix (<30 mm).
Materials and methods: Patients presenting between 20 and 37 weeks of gestation, with clinically intact membranes and cervical dilation <3 cm were recruited. CL measurement via TVU was performed as standard of care, while clinicians were blinded to the PARTOSURE test result. Performance metrics were calculated for PARTOSURE to predict delivery within 7 days of presentation, separately for patients between 24 and 35 weeks of gestation, as well as in combination with CL stratification.
Clinical cases and summary results: A total of 71 patients enrolled after providing informed consent. Average GA at presentation was 28 weeks. While 59 (83%) patients had a cervix <25 mm, only 8 (11%) delivered within 7 days of presentation, PARTOSURE was positive in 11 (15%) patients. The positive predictive value (PPV) and negative predictive value (NPV) for predicting delivery within 7 days for PARTOSURE were 55% and 97%, respectively, the PPV and NPV for CL <25 mm for the same endpoint were 14% and 100%, respectively. 47 (66%) patients were between 24 and 35 weeks of gestation, the PPV and NPV for delivery within 7 days of testing for PARTOSURE were 67% and 100%, respectively, while CL <25 mm for the same endpoint were 11% and 100%, respectively. 35 (74%) patients in the same group had an equivocal CL (15-30 mm), for which the PPV and NPV for PARTOSURE were 60% and 100%, respectively, while CL <25mm had 11% and 100%, respectively, for the same end point. 6 (8%) patients had a cerclage in place at the time of testing and PARTOSURE gave an accurate result in all 6 cases, with 5 true negatives and 1 true positive.
Conclusion: PARTOSURE is a useful test in predicting preterm birth and has a higher positive predictive value than cervical length alone. PARTOSURE is most useful when used in combination with CL measurement to predict imminent spontaneous delivery in patients with symptoms of preterm labor and CL <30 mm. A combination of CL measurement and PARTOSURE may lead to a reduction of unnecessary hospitalization and treatment by up to 80% compared to admitting based on a short cervix (<25 mm) alone.

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Expectant management of PPROM

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Introduction: PPROM occurs in approximately 2% of all pregnancies and responsible for one third of all preterm births. PPROM is an important cause of prematurity. PPROM is associated with both maternal and neonatal morbidity such as chorioamnionitis, preterm birth, severe necrotizing enterocolitis, respiratory distress syndrome, sepsis, placental abruption, retained placenta, postpartum endometritis. We report a case with PPROM which managed approximately 8 weeks from 25th gestational weeks.
Materials and methods: A 30-year-old woman G1P0 at 25 weeks of gestation admitted to our outpatient clinic for vaginal bleeding and discharge of fluid. In ultrasonographic examination, 650 g weighted, appropriate for gestational age, vital fetus was detected. The laboratoary findings of the pregnant were normal. Vital findings were normal. Firstly, we started prophylactic ampicillin-sulbactam (1 g every 6 hours) for prevention of chorioamnionitis. We also gave Betamethasone in two doses 24 h apart to stimulate lung maturation for anticipation of possible preterm delivery. During expectant management, the findings of chorioamnionitis were followed, we did not performed digital examination until active labor. 20 days after the consultation with the infectious diseases specialist oral treatment of amoxicillin/CA (1 g, two timesper day) and vaginal treatment of 2% clindamycin phosphate (twice a day, vaginally) was applied.
Clinical cases and summary results: Fifty- six days later, a cesarean section was performed onset of subfebrile fever that continued for 24 hours and elevated white blood count. APGAR scores of the female newborn were 7 at 1st minute and 9 at 5th minute, weight. The weight was 1935g. The patient was discharged on the 3th postoperative day without any infectious complications. The newborn stayed 12 days in the intensive care unit and was discharged from the hospital on the 15th postpartum day.
Conclusion: In rare and selected cases, fetal, neonatal and maternal outcomes can be increased with prolonged intensive expectant management.