

The Significance of Human β -HCG and Vaginal Cervicometry in Predicting Preterm Delivery

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ABSTRACT:

Objective: The aim of the present study was to determine in addition to endovaginal cervicometry whether hCG detected in cervicovaginal secretions of patients at 28–34 weeks' gestation with signs and symptoms of preterm labor is a predictor for preterm birth (<37 weeks' gestation).

Study Design: A prospective observational study of pregnant women with threatened preterm labor between 28 and 34 weeks gestation.

The study population consisted of patients admitted to the causality unit in the Department of Obstetrics and Gynecology, Kasr El Aini Faculty of Medicine, Cairo University, Cairo, Egypt between December 2004 to January 2006 with signs and symptoms suggestive of preterm labor and intact membranes.

One hundred and three patients satisfied the inclusion criteria and were screened with a bedside qualitative hCG assay and transvaginal cervicometry and subsequently with a quantitative hCG assay. Then, digital examination of the cervix was performed and Bishop scores were assessed. All samples were obtained prior to the administration of tocolytic therapy, refrigerated at -20°C, and assayed within 24 hrs. The primary outcome of the study was the success of stopping labor for at least 24 hours after stopping of tocolytic drug.

Results: Qualitative and quantitative hCG results were obtained for all patients enrolled. The mean gestational age at sampling was 31.1 weeks; combined qualitative hCG and cervical length revealed sensitivity and specificity of 91.6% and 84.8% respectively and combined quantitative hCG with cervical length revealed sensitivity and specificity of 91.6% and 86.0% respectively.

Conclusion: Qualitative measurements of hCG concentration from cervicovaginal secretions does not require additional instruments and may be easily and cheaply performed at the bedside. Transvaginal ultrasound cervical measurement is a safe and effective technique to predict increased risk of preterm delivery in selected patients and normal results can help avoid unnecessary interventions. Combining the qualitative hCG testing with cervical length will get benefit of the higher sensitivity of the cervical length and the higher specificity of hCG testing in accurately predicting pre-term labor.

Key words: Qualitative hCG- Quantitative hCG- Cervicometry- Preterm labor