

ABSTRACT

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Comparison of two methods of ovulation prediction: CUE and urinary LH detection. C.M. Blacker, K.S. Moghissi, I.E. Zador, K.K. Wachsmann. Dept. of OB/GYN, Wayne State University, Detroit, MI 48202.

The CUE® Fertility Monitor (Zetek, Inc., Aurora, CO) has been proposed as a useful adjunct in predicting ovulation. Previous reports have quoted 80% accuracy in predicting ovulation 5–7 days in advance in clomiphene citrate-induced cycles (AFS 1986 Mtg., ABS. #49). The objective of this study was to evaluate the accuracy of the CUE ovulation prediction method.

Fifteen infertile women were studied for 34 menstrual cycles. Twenty-four cycles were induced with clomiphene citrate (CC); 10 cycles were spontaneous. The first increase in urinary luteinizing hormone (LH) was documented with commercially available kits (either First Response, Ovutime, or Quidel Ovulation Test). Day of ovulation was determined by serial pelvic ultrasounds (US) performed on day of increased LH and each subsequent day until a 30% decrease in follicular size (indicative of ovulation) was observed. Ovulation was verified by both US and elevated midluteal serum progesterone.

Subjects tested salivary (SR) and vaginal (VR) electrical resistance using CUE Fertility Monitor daily until 1 week following increased urinary LH. We identified the preovulatory peak of SR by a marked rise in daily oral readings followed by a 2 day fall. The VR nadir was identified by a decrease followed by a marked increase the next day. Results were analyzed by distribution and multiple regression analyses.

65% of urinary LH surges were observed six to eight days after the SR peak. The mean

(+ – SD) interval from SR peak to LH rise was 6.3 (+ – 1.9) days. 63% of SR peaks were observed seven to nine days prior to ovulation. The mean interval from SR peak to ovulation was 7.7 (+ – 2.1) days. SR peak was correlated with ovulation ($r = .528$; $p < .005$).

CONCLUSION

The mean interval from the LH rise to ovulation was 1.3 (+ – 0.5) days while from VR nadir to ovulation was 2.0 (+ – 1.6) days. 74% of the VR nadirs were within 2 days of ovulation by US and 81% were within 1 day of the LH rise. The mean interval from the VR nadir to the LH peak was 0.5 (+ – 1.7) days. LH surge ($r = .98$; $p < .0005$) and VR ($r = 0.67$; $p < .0005$) were highly correlated with the day of ovulation on US.

We conclude: 1) both VR and urinary LH rise are accurate in predicting ovulation. 2) SR is also accurate in predicting ovulation, though less so than VR and LH. 3) the longer interval from SR to ovulation makes it a potentially useful tool in planning infertility procedures or for natural family planning.