Reviewer's report

Title: The Temporal Reliability of Serum Estrogens, Progesterone, Gonadotropins, SHBG and Urinary Estrogen and Progesterone Metabolites in Premenopausal Women

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Reviewer: Dr Christopher Longcope

Level of interest: A paper of limited interest

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

Compulsory revisions

1. Day 19 of the cycle was chosen, but this is a time when hormone levels are changing rapidly. Many people choose a day early in the cycle when there is less change. Progesterone level would need to be drawn in the mid-luteal phase, however.

2. There is little discussion as to the need for multiple blood draws over a 30-40 minute time period to minimize the effects of bursts of secretory activity. This would apply especially to the gonadotropins.

3. The whole design is based on the assumption that an Ovukit is 100% accurate in the timing of ovulation. There is no discussion as to its reliability, but it is not that accurate. Therefore, the whole design would appear to be flawed.

4. In the previous publication, your reference 13, it is stated that a number of cycles were anovulatory. Were these included in the present analysis? If so, this would confound the data.

5. In that publication it appears that cycle lengths varied by as much as two days. This could further confound the data.

6. It should be carefully noted that the conclusions are valid only for mid-luteal measurements, and that the timing is based on a potentially inaccurate measurement, urinary LH.

Competing interests:
None declared.