Cyclofertilography: A New Method for the Control of Ovulation and Luteal Function

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Context
Natural cycle-monitoring with only basal body temperature measurements is considered not reliable in reproductive medicine following the NICE guidelines.

Objective
The aim of this study was to determine the fertile window, as well as the sufficiency of the corpus luteum phase, with a new vaginal biosensor which continuously measures core body temperature (cyclofertilography).

Methods
A cyclofertilography measured and analyzed by the vaginal biosensor was recorded in 470 cycles. We carried out two cross-sectional, non-randomized studies in two independent centers between June 2012 and December 2013. The data collected were evaluated via web-based software.

Patients
158 regularly and irregularly menstruating women without hormonal treatment were included.

Interventions
see Methods

Main Outcome Measures
83.4% of the cycles could be classified as biphasic. 8.8% of cycles investigated showed a short luteal phase of less than 12 days as a sign of luteal insufficiency. 15% of the women had a prolonged cycle with ovulation later than the 27th cycle day.

Results
Accompanying hormone examinations and successful pregnancies verified the correctness of the determined ovulations, which were observed from the 9th to the 36th cycle day. We describe main characteristics of the cyclofertilography, such as the area under the curve, amplitude and pattern of the temperature curve at the time of ovulation in correlation to the length of the follicular and luteal phase.

Conclusion
The vaginal biosensor can be used to accurately determine the ovulation and sufficiency of the corpus luteum phase. It can be used for sterility treatment as well as for IVF in a natural cycle.

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