When levels measured during monotherapy were used (41%) than when levels at ovulation were used (29%).

"An innovative approach of CRP in clinical settings and in future research studies should be standardized to the menstrual cycle phase," said lead investigator Audrey J. Gaskins, a postbaccalaureate fellow at the National Institute of Child Health and Human Development in Rockville, Md.

Since ovulation can be difficult to time, "Any time other than menstruation would be ideal," she said.

"Evidence suggests that estrogen may modulate inflammation to a clinically relevant extent when it comes to COV outcomes," Ms. Gaskins noted.

"The risk of coronary events rises in women after menopause, and this corresponds with endogenous estrogen levels decrease," she said. "Studies have shown that in regularly menstruating women, there are more acute coronary events in the early follicular phase, when estrogen levels are lowest."

Ms. Gaskins and her colleagues analyzed data from normally menstruating women, age 27 years who were followed up for two menstrual cycles in the BioCycle Study. Serum samples collected at eight distinct times during the menstrual cycle were assayed for levels of hormones and hs-CRP. Any hs-CRP values exceeding 10 mg/L were excluded. Ms. Gaskins noted that the population was more diverse than those in previous studies. Some 59% of the women were white, 20% were black, and 21% were of other races. Although 61% had a body mass index in the normal range, 25% were overweight, 10% obese, and 3% underweight (percentages rounded). Seven-four percent were nulliparous, and 4% were smokers.


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The study included two main phases: one in which women were enrolled in the BioCycle Study at weeks 1 and 12, and weeks 6 and 13, and a follow-up phase in which the women were divided into two groups: one group was given the hormone estrogen, and the other group received no hormone.

The results showed that women who received estrogen had lower hs-CRP values, indicating that estrogen may modulate inflammation to a clinically relevant extent when it comes to COV outcomes.

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