

Elevation of C-reactive protein during the luteal phase in healthy adolescents

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Resumen

Introduction: Variations in inflammatory markers have been reported in adult women during the luteal phase, but whether these findings are observed during adolescence is unknown. We postulate that higher ultrasensitive C-reactive protein (usCRP) and lower 2-hydroxyestrone (2OHE) levels, an estrogen metabolite with cardioprotective actions, are present during the luteal phase in young women.

Aim: To evaluate usCRP levels during the menstrual cycle and to determine its association with 2OHE and 16 alpha-hydroxyestrone (16OHE) in adolescents.

Methods: Healthy postmenarcheal adolescents (N= 37) were studied during one menstrual cycle in follicular phase (FP) and luteal phase-like period (LP-L).

Results: Elevations in usCRP levels in the LP-L were observed in the entire group and in anovulatory cycles (1.9 +/- 1.1 mg/L in FP to 2.5 +/- 1.8 mg/L in LP-L; p<0.0001). Increases in estrone, estradiol, free and bioavailable estradiol, testosterone, usCRP and 2OHE levels were observed in LP-L compared with FP (p<0.01), with a borderline elevation in IFG-I levels (p=0.06).

Conclusions: We report an elevation of usCRP and 2OHE levels during the luteal phase in healthy adolescents. Elevations of this inflammatory marker in anovulatory adolescents without an increase in 2OHE may play a role in metabolic risks associated with chronic anovulation.

Palabras clave

Palabras clave de autor: Adolescence; cardiovascular risk; C-reactive protein; estrogens; hydroxyestrone; menstrual cycle; ovulation

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