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Effect of human chorionic gonadotropin administration on pituitary and luteal response to gonadotropin-releasing hormone.

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### **Abstract**

The effect of human chorionic gonadotropin (hCG) administration on the pituitary and luteal responses to acute gonadotropin-releasing hormone (GnRH) administration at the mid luteal phase (LP) were studied in 20 infertile women. Patients were divided into 2 groups. In 1 group (n = 8), hCG (5,000 IU i.m.) was injected in a single shot on day 5 of LP. Sixty hours later (day 8 of LP) blood samples were taken every 15 min for 180 min; then 25 micrograms GnRH were acutely administered intravenously and blood samples taken at 185, 195, 210, 225, 240, 255, 270, 285 and 300 min. In the other 12 patients the same experimental design with GnRH was performed on day 8 of an untreated LP. Plasma LH, FSH, beta-hCG, progesterone and estradiol (E2) were assayed. The responsiveness of different hormones to GnRH was evaluated as integrated secretory area for 120 min after injection (sISA) and as the absolute increase with respect to the area under basal conditions before a GnRH administration (bISA). hCG-treated patients showed higher basal and bISA plasma values of LH/hCG than controls (p less than 0.01).