Follicular phase hypothalamic-pituitary-gonadal axis function in women with fibromyalgia and chronic fatigue syndrome.

OBJECTIVE: Fibromyalgia (FM) and chronic fatigue syndrome (CFS) are clinically overlapping stress associated disorders. Neuroendocrine perturbations have been noted in both syndromes, and they are more common in women, suggesting abnormalities of gonadal steroid hormones. We tested the hypothesis that women with FM and CFS manifest abnormalities of the hypothalamic-pituitary-gonadal (HPG) hormonal axis.

METHODS: We examined the secretory characteristics of estradiol, progesterone, follicle stimulating hormone (FSH), and luteinizing hormone (LH), including a detailed analysis of LH in premenopausal women with FM (n = 9) or CFS (n = 8) during the follicular phase of the menstrual cycle compared to matched healthy controls. Blood was collected from an indwelling intravenous catheter every 10 min. over a 12 h period. LH was assayed from every sample; pulses of LH were identified by a pulse-detection program. FSH and progesterone were assayed from a pool of hourly samples for the 12 h period and estradiol from samples pooled over four 3 h time periods.

RESULTS: There were no significant differences in FSH, progesterone, or estradiol levels in patients versus controls. There were no significant differences in pulsatile secretion of LH.
CONCLUSION: There is no indication of abnormal gonadotropin secretion or gonadal steroid levels in this small, but systematic, study of HPG axis function in patients with FM and CFS.