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JOURNAL ARTICLE

Modulation of immunoradiometric and bioactive follicle stimulating hormone secretion and clearance in young and elderly men during treatment with tamoxifen or flutamide

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The secretion and clearance of immunoactive and bioactive follicle-stimulating hormone (FSH) in healthy young men (N = 10) and elderly men (N = 7) during blockade of endogenous sex steroid hormones with tamoxifen, an antiestrogen, and flutamide, an antiandrogen, was investigated. To this end, subjects underwent blood sampling basally every 10 minutes for 24 hours, and then received 2 consecutive intravenous pulses of synthetic gonadotropin releasing hormone (GnRH; 10 micrograms and 100 micrograms) every 2 hours. This paradigm was repeated on two subsequent visits, in which subjects received either flutamide HCl, a specific nonsteroidal competitive antagonist of the androgen receptor (750 mg daily for 3 days), or tamoxifen, a selective antagonist of the estrogen receptor (20 mg daily for 9 days). Serum immunoactive FSH concentrations were measured in each sample by immunoradiometric assay (IRMA). Serum bioactive FSH concentrations were determined by an in vitro bioassay (rat granulosa cell aromatase system) on 24-hour serum pools. Deconvolution analysis was used to analyze both the FSH IRMA 24-hour time series and FSH release after GnRH. Comparisons between young and elderly men of the basal state showed significantly increased 24-hour mean serum immunoactive and bioactive FSH concentrations and significantly decreased free testosterone concentrations in elderly men. By deconvolution analysis, elderly men had a significant decrease in FSH secretory burst duration, and an increase in FSH half-life and FSH secretory burst amplitude compared with younger men. In response to sex steroid receptor blockade in young men, there was a significant increase in mean serum bioactive FSH concentrations during antiandrogen treatment, but not during antiestrogen treatment. (ABSTRACT TRUNCATED AT 250 WORDS)

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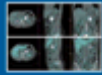
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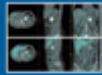


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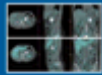


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