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JOURNAL ARTICLE

Follicle-stimulating hormone (FSH) escape during chronic gonadotropin-releasing hormone (GnRH) agonist and testosterone treatment

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Observations that serum follicle-stimulating hormone (FSH) levels begin to rise after initial suppression during chronic gonadotropin-releasing hormone (GnRH) agonist treatment of men with prostate cancer had led to speculation that FSH escape might in part account for the failure of GnRH agonist analogs to completely suppress spermatogenesis in normal eugonadal men. However, previous studies in healthy young men failed to report FSH escape during GnRH agonist treatment for up to 16 weeks. We considered the possibility that this may have been due to the insensitivity of the FSH assays. Accordingly, using highly sensitive and specific two-site directed fluorometric assays and a sustained-release GnRH agonist formulation, we reexamined the issue of whether serum FSH levels rise after initial suppression during chronic GnRH agonist treatment. Two groups of healthy normal men, 19-50 years of age, received 7.5 mg of a long-acting GnRH agonist microcapsule formulation (Lupron Depot; TAP Pharmaceutical Company, North Chicago, Illinois) on days 1 and 30. In addition, the subjects received either 4 or 8 mg/day testosterone replacement by means of a testosterone microcapsule injected intramuscularly on day 1. Serum luteinizing hormone (LH) and FSH levels were measured by sensitive and specific two-site directed fluorometric assays on multiple occasions during the 3-week control period and the 9-week treatment period. Serum LH levels declined to a nadir between 2 and 4 weeks and stayed suppressed throughout the remainder of the treatment period in both the 4- and 8-mg testosterone groups.(ABSTRACT TRUNCATED AT 250 WORDS)

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