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JOURNAL ARTICLE

A long-term, prospective study of the physiologic and behavioral effects of hormone replacement in untreated hypogonadal men

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This study describes sexual activity, nocturnal penile erections, and mood states as a function of serum levels of androgens in previously untreated hypogonadal men before and during hormone replacement, selected infertile men (elevated serum follicle-stimulating hormone levels), and normal men. Nocturnal penile tumescence and rigidity were measured with a portable monitor, and sexual activity and mood were assessed by prospective, self-reported written forms. Nocturnal erections were absent or of very low amplitude and duration in the untreated hypogonadal men compared to the infertile and normal men. Nocturnal erections increased steadily during hormone replacement and were in the normal range within 6 to 12 months of treatment. In contrast, serum testosterone concentration rapidly reached the upper range of normal. During treatment, the hypogonadal men reported increases in several aspects of sexual activity, including sexual interest and the number of spontaneous erections. On mood inventories, the untreated hypogonadal men scored significantly higher in ratings of depression, anger, fatigue, and confusion than did infertile and normal men. During hormonal replacement therapy these scores decreased, although the hypogonadal men continued to score higher in "depression" than did infertile and normal men. In most instances, the men with infertility and the normal men were statistically indistinguishable in nocturnal penile tumescence and rigidity parameters, self-reported sexual activity, and mood state. These data support the hypothesis that androgen treatment increases nocturnal and spontaneous erections, and sexual interest, and has some capacity to improve mood.

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