Journal of Andrology, Vol. 24, No. 4, July/August 2003

Cognitive Changes Associated With Supplementation of Testosterone or Dihydrotestosterone in Mildly Hypogonadal Men: A Preliminary Report

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This study prospectively examined changes in cognition in hypogonadal men given testosterone (T) or older hypogonadal men given dihydrotestosterone (DHT) gel. A battery of cognitive tests assessing verbal and spatial memory, language, and attention was administered at baseline (prior to medication) and again at days 90 and 180 of treatment for men receiving T gel and at baseline and days 30 and 90 of treatment for men receiving DHT gel. For men receiving T gel, circulating total T and estradiol (E_2) were significantly raised compared with baseline, and a significant improvement in verbal memory was observed. For men receiving DHT gel, serum DHT levels increased and T levels decreased significantly compared with baseline, and a significant improvement in spatial memory was observed. The results suggest that beneficial changes in cognition can occur in hypogonadal men using T replacement levels and DHT treatment, and these changes in cognition can be reliably measured during a relative steady-state dose level. Further, our results suggest that aromatization of T to E_2 may regulate verbal memory in men, whereas nonaromatizable androgens may regulate spatial memory.

Key words: Memory, gel, androgens, cognition, spatial

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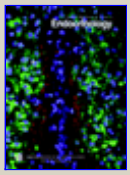

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