Pituitary-testicular axis in obese men during short-term fasting.

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Abstract
To investigate whether short-term fasting affects the pituitary-testicular axis in obese subjects, 9 massively obese men (Body Mass Index 39.0 +/- 1.3, mean +/- SEM) were given two identical iv GnRH tests, the first (control) after an overnight fast, the second after 56 h of food deprivation. Short-term fasting augmented the GnRH-induced LH incremental area by 26% (1317 +/- 251 vs 1661 +/- 297 U.l-1.min-1, p less than 0.05), but failed to affect the corresponding testosterone incremental area. Eight non-obese normal men (Body Mass Index 22.2 +/- 0.5) were investigated for comparison. All of them were studied according to the same protocol as the obese group. Short-term fasting increased the GnRH-elicited LH response by 67% in the non-obese group (LH incremental areas 2147 +/- 304 vs 3581 +/- 256, p less than 0.01), and the corresponding testosterone response by 180% (testosterone incremental areas 111 +/- 61 vs 311 +/- 49 micrograms.l-1.min-1, p less than 0.01). These results imply that food deprivation affects the pituitary-testicular axis differently in obese and non-obese men.

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