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JOURNAL ARTICLE

Altered testicular hormone production in infertile patients with idiopathic oligoasthenospermia

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We studied the kinetics of testicular response to human chorionic gonadotropin (hCG) in oligoasthenospermic and asthenospermic patients (OAZ-AZ). The responses of testosterone (T), androstenedione (A), 17 OH-progesterone (17OHP), and estradiol (E2) were evaluated in 60 OAZ-AZ patients and compared to those of 10 normal men. The responses of T, A, and 17OHP to hCG in the control group displayed a biphasic pattern with an initial peak at 4 hours and a second peak after 24 hours. The E2 response showed a single peak between 24 and 48 hours after hCG administration. OAZ-AZ patients had two types of T responses: group 1 (n = 40) had no first peak and group 2 (n = 20) had a normal response pattern. The response of A was similar to that of T, and the E2 response was normal in both groups. There were three types of 17OHP responses in group 1 (low, high, or normal); however, the 17OHP response was normal in group 2. Treatment of group 1 with aromatase inhibitors (aminoglutethimide or testolactone) induced an improvement of the acute T response only in patients with high or normal 17OHP response to hCG, whereas no effects were observed in patients with low 17OHP response. In group 2, the aromatase inhibitors induced no changes in the T response. These results demonstrate that in some OAZ-AZ patients (group 1, blunted T response) testicular hormone production is altered. They also suggest the presence of two enzyme blocks: one at the 17,20 desmolase level, mediated by E2, and another at early biosynthetic steps, not mediated by E2.

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