

THE EFFECT OF TESTOSTERONE ON POOR RESPONDERS IN IVF TREATMENT

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Introduction and objectives Poor ovarian responders are the most challenging patients in reproductive medicine and still there is no successful treatment that has been proposed. Androgens are thought to play an important role during early folliculogenesis and diminished levels are associated with decreased ovarian sensitivity to FSH. The study question was whether pretreatment with testosterone improves the results in poor responders, undergoing IVF. The end points were the number of antral follicles (AF) and oocytes (COC); anti-Müllerian hormone (AMH); fertilization, pregnancy and cancelation rates (FR, PR, CR). **Material and methods** This prospective study enrolled 33 poor responders performing IVF. Eleven patients were pretreated with testosterone (250 mg intramuscular injection/i.m./, twice for 6 weeks) and 22 were included in a control group. All patients underwent anti-GnRH protocol and FSH stimulation was initiated on day 2. The women were tested for testosterone (T), SHBG, DHEA-S and AMH. **Results** Two groups were with similar baseline characteristics (BMI-25.6 and age-39.6). Significant improvement was reached in the hormones T, DHEA-S and SHBG in the testosterone-pretreatment group. No difference was detected in AF-count (AFC) (5.06 versus 4.24); AMH (0.51 versus 0.53), COC (2.2 versus 2.32) and the number of embryos (1.2 versus 1.33) respectively. There was a slow improvement in FR but without significance (62.97% versus 57.61% respectively). However, the cancelation rate of the ovarian stimulation was massive in the control group (18.8%) in comparison with the study group (0%). PR in the testosterone group was significantly higher (PR per cycle - 27.3% versus 4.6%; OR 7.88 in 95% CI 0.71-87.27; p = 0.09). **Conclusion** Based on the limited number of patients, i.m. pretreatment with testosterone seems to improve PR and CR in poor responders but failed to affect AFC, AMH, number of oocytes and embryos. However, given this results, further research would clearly be warranted.