Human Chorionic Gonadotropin-Based Hormonal Therapy in Men after Failed Microdissection Testicular Sperm Extraction

Introduction and Objective: A second microdissection testicular sperm extraction (micro-TESE) in patients after a failed first attempt is less likely to obtain sperms. Several studies have shown that human chorionic gonadotropin (hCG) and/or follicle stimulating hormone (FSH) treatment can improve spermatogenesis in nonobstructive azoospermia (NOA) men with normo- or hypergonadotropic hormone profiles. The purpose of this study is to find a suitable hormonal treatment regimen in patients undergoing a second micro-TESE after the first attempt failed.
Materials and Methods: Forty-eight men who requested a second micro-TESE (mean age: 35.8 years) participated in this study. Patients with chromosomal abnormalities, including Klinefelter syndrome, were excluded. hCG stimulation (5000 IU, 3 times a week) was started > 6 months after the first micro-TESE and maintained for 5 to 6 months, after which the second micro-TESE was performed. At 3 months of the hCG therapy, patients whose endogenous FSH was decreased below 2 IU/l due to the elevated testosterone levels were treated with recombinant human FSH (150 IU, 3 times a week) and hCG. The study protocol was approved by our institution, and informed consent was obtained from all participants.
Results: Thirteen patients received hCG alone, and 15 received hCG and recombinant FSH, and 20 did not receive any hormonal stimulation before the second micro-TESE. There was no significant difference in the baseline hormone profiles among the 3 groups (Table). With the second micro-TESE, sperm retrieval failed in patients who received no hormonal treatment (0%), while sperm was successfully obtained from 6 patients (21%) who did receive hormonal stimulation ($p<0.05$). Patient age, testicular volume, and hormone profiles did not predict the results of hormonal stimulation; however, the incidence of round spermatid at first micro-TESE was significantly higher in men with successful sperm retrieval (66.7%) than in whom sperm retrieval failed (13.6%) at the second micro-TESE ($p<0.05$).
Conclusions: hCG-based hormonal therapy preceding a second micro-TESE elevates the likelihood of sperm retrieval in men after a failed first attempt. Men who have round spermatid at the first micro-TESE are more likely to respond to the hormonal stimulation.