

Clinical Assessment of Microdissection Testicular Sperm Extraction in 307 Patients with Non-obstructive Azoospermia

Introduction and Objective: Microdissection testicular extraction (micro-TESE) has gained recognition as an exclusive and advantageous procedure for identification of testicular spermatozoa in patients with nonobstructive azoospermia (NOA). We hence analyzed the results of micro-TESE in over 300 cases and examined predictive factors of successful sperm retrieval rate by micro-TESE.

Materials and Methods: A total of 307 men underwent micro-TESE in our institution from April 2000 to August 2011. We analyzed sperm retrieval rate according to the histopathological and etiological classification. Several factors, including patient's age, testicular volume, and endocrinologic data were compared between the two groups: those in whom the sperm retrieval was successful and those in whom it was not. Moreover, we analyzed several preoperative clinical parameters to determine the predictors on sperm extraction following this procedure using logistic regression analysis.

Results: In this investigation period, at least 5 operators have done micro-TESE. Mean patient age was 33.9 ± 4.5 years old. Testicular atrophy was seen in almost all men (mean testicular volume: 10.7 ± 5.2 ml). FSH, LH, and T levels before surgery was 22.9 ± 12.2 mIU/ml, 8.9 ± 6.1 mIU/ml, and 4.3 ± 1.9 ng/ml, respectively. Overall, testicular spermatozoa were retrieved successfully in 93 (30.3 %). According to histopathological classification, sperm retrieval rate was 20.3 % in Sertoli cell only syndrome, 29.4 % in maturation arrest, and 87.8 % in hypospermatogenesis, respectively. Meanwhile, the retrieval rate was 23.5 % in idiopathic NOA patients, 37.9 % in 58 azoospermic men with KS including 52 non-mosaic type and 6 mosaic type, 41.1 % in men with other chromosomal abnormalities, 40% in cryptorchism, 40 % of men received chemotherapy or radiation therapy for malignancy, and 100% of men received gonadotropin replacement therapy because of hypogonadotropic hypogonadism, respectively. Although only patient's age differed significantly between the two groups according to Mann-Whitney U test, there was none of the obvious factors investigated for predicting sperm extraction according to logistic regression analysis.

Conclusion: In our study, the sperm retrieval rate of Micro-TESE is only about 30%. In especial, the rate in idiopathic NOA patients, who are most common pattern of NOA, is lower than 25%. These rates are much lower than which many other U.S. clinicians previously reported. The sperm retrieval rate may be different between races.