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ABSTRACT

Azoospermia factor (AZF) microdeletion plays a key role in the genetic etiology of male infertility. The relationship between sY152 deletion in the AZFc region and clinical outcomes is still unclear. This study was to determine the effects of sY152 deletion on the sperm parameters and clinical outcomes of non-obstructive azoospermia or oligozoospermia men after intracytoplasmic sperm injection (ICSI) treatment. A total of 61 infertile men with AZFc microdeletion of the Y chromosome from January 2008 to December 2012 were recruited in the present study. They were divided into two groups, the sY152 group (n=12) and the AZFc group (n=49), based upon whether they have deleted single sY152 marker or all AZFc markers. Fifty azoospermia or oligozoospermia patients without Y chromosome microdeletion were included as the control group. The sperm quality and clinical data were compared among the three groups. Retrospective cohort-control study was performed. The sperm concentration and motility in sY152 group were better than AZFc group (P<0.05), and was comparable to the control group (P>0.05); the morphology, seminal zinc, seminal fructose and seminal carnitine were similar among the three groups (P>0.05). Patients in both sY152 and AZFc groups had lower fertilization rates (68.40% and 70.63%, respectively) than those in the control group (74.91%), and the differences were statistically significant (P<0.05). No significant differences were found in terms of MII oocyte, high-grade embryo rate, 2PN zygote, number of available embryos and transferred embryos, clinical pregnancy rate, implantation rate, miscarriage rate, multiple pregnancy rate, delivery rate, preterm rate and the male/female ratio among the three groups (P>0.05). Single sY152 deletion might cause a lower fertilization rate, but no adverse effects on sperm quality and clinical outcomes were found. Our study may provide more information for consultation in these patients.

Key words: Y chromosome microdeletion; AZF; sY152; sperm quality; fertilization; clinical outcome

Abbreviations: AZF, azoospermia factor; ICSI, intracytoplasmic sperm injection; SCOS, sertoli cell only syndrome; STS, sequence tagged site; EAA, European Academy of Andrology; EMGQ, European Molecular Genetics Quality; CASA, computer assisted semen analysis; TESE, testicular sperm extraction; SAGE, serum protein substitute; PAR, Pseudoautosomal region.