

## Use of spermatide for treatment of non-obstructive azoospermic patients

Akhondi M.A. (Ph.D.)<sup>1,2</sup>, Sedighi M.A. (M.D.)<sup>3,4</sup>, Amir Jannati N. (M.D.)<sup>1</sup>, Sadri Ardakani H.(M.D.)<sup>5</sup>.

1- Assistant Professor, Department of Reproductive Endocrinology & Embryology , Avesina Research Center , Tehran, Iran.

2- Member of specialist group, Department of Embryology, Royan Institute, Tehran, Iran.

3- Member of specialist group, Department of Andrology, Royan Institute, Tehran, Iran.

4- Assistant Professor, Department of Urology, Shariati Hospital, Faculty of Medicine, Tehran University of Medical Science, Tehran, Iran.

5- Instructor, Department of Reproductive Endocrinology & Embryology, Avesina Research Center, Tehran, Iran.

### Abstract

It has been shown that male factor is a common cause of more than half of the infertilities from which 10% are azoospermic patients. Despite multiple testis biopsies, any sperm for microinjection couldn't be obtained in 40% of nonobstructive azoospermic patients. However, recent reports showed successful use of spermatids instead of mature spermatozoa for ICSI which opened a new horizon for these patients. In the present study, 67 nonobstructive azoospermia patients with no sperm in their testis biopsies were enrolled, from whom round spermatids were extracted from testis tissue and used as male gamete for ovum fertilization. The results including fertilization rate, embryo formation, transfer rate and pregnancy rate were evaluated. Patients were selected based on their history and physical examination, semen analysis, FSH assay and results of multiple testis biopsies with no sperm. Necessary information about use of spermatid as male gamete in microinjection was presented to the patients and their consent were taken. In appropriate time, female cycles were began and simultaneous to egg collection, testis biopsy was performed Mean age of male and female were  $32\pm 6.5$  and  $29.5\pm 8$  years, respectively. Mean size of right and left testis were  $11\pm 1$  and  $10.4\pm 0.6$  mL, respectively and the mean of FSH level was  $21.1\pm 3.2$  mIU/mL. From 760 collected eggs, 537 ovums were injected with spermatids and fertilization rate was 38.2%. Totally, 182 embryos (88.8%) were transferred to the uterus. One chemical pregnancy was observed and documented by ultrasonography, although it was aborted at fourth week. Based on the results of this study, the efficiency of spermatid use in azoospermic patients with no sperm in TESE as a treatment option for their infertility was doubted.

**Key words:** Nonobstructive azoospermia, Spermatid, ICSI, and TESE.

**Corresponding address:** Dr. Akhondi M.A., Reproductive Endocrinology & Embryology Dep., Avesina Research Center, Evin, P.O. Box: 19835-177, Tehran, Iran.

**Email:** akhondi@avesina.ir