

Life



LEARNING INITIATIVES FOR FERTILITY EXPERTS

ISSUE 12 MARCH 2005

The RecDate Study: Clinical Evidence for the Superiority of r-hFSH

The Ethics
of IVF in Japan

PGD in China



CASE STUDY:

Delayed diagnosis of male factor infertility

in a couple undergoing fertility treatment



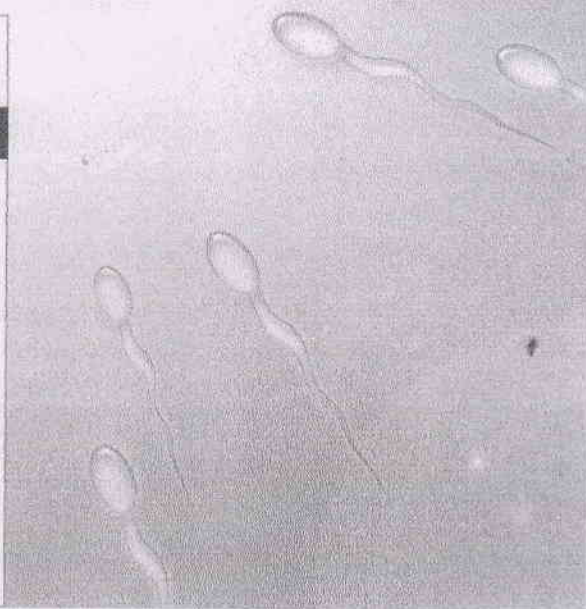
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>> When assessing the infertile couple, semen analysis is the most important investigation for the male partner and the most basic laboratory investigation to undertake. Advances in in vitro fertilization (IVF) techniques, particularly intracytoplasmic sperm injection (ICSI), have not diminished the role of semen analysis in modern fertility practice. Indeed, semen analysis is crucial to assess semen volume, appearance and viscosity, and sperm concentration, motility and morphology (Table). As clinicians use the results of semen analyses to choose an appropriate treatment option, a reliable laboratory service is imperative.

Table. Normal values of semen variables: standard tests (WHO 1992)

VARIABLE	
Semen volume	2.0 mL or more
pH	7.2-8.0
Sperm concentration	$\geq 20 \times 10^6$ spermatozoa/mL
Total sperm count	$\geq 40 \times 10^6$ spermatozoa/mL
Motility	$\geq 50\%$ with forward progression (categories a and b) or $\geq 25\%$ with rapid progression (category a) within 60 min of ejaculation
Morphology	$\geq 30\%$ with normal forms
Vitality	$\geq 75\%$ living, assessed by dye exclusion
White blood cells	$< 1 \times 10^6$ /mL
Immunobead test	$< 20\%$ spermatozoa with adherent particles
MAR test	$< 10\%$ spermatozoa with adherent particles



To ensure a quality semen analysis service and an accurate result, laboratories must be experienced and participate in internal and external quality assurance initiatives. They must incorporate reliable and well-documented standard operating procedures, have rigorous training protocols for technical staff, and seek regular validation by external audit. The World Health Organization offers a laboratory manual for the examination of human semen and sperm, and clearly outlines the variables that need to be assessed, and methods of analysis and quality assurances to be used.²

In the following case study, a successful pregnancy outcome following ICSI for round-headed spermatozoa (globozoospermia) is reported following an initial incorrect diagnosis of unexplained primary infertility in the female partner. This report highlights the need for proper training of the personnel involved in assessing sperm morphology to ensure an accurate and timely diagnosis that would avert unnecessary use of resources and prolonged emotional strain on the infertile couple.

Case study

A woman with regular menstrual cycles and a previous diagnosis of

at our clinic for further treatment. Her husband had undergone two semen analyses in 1997 and 1999, with the results of both suggesting his semen and sperm quality was in the normal range. As a result of these reports, the woman was subjected to hysterosalpingography and a diagnostic laparo-hysteroscopy. She first started treatment at our clinic in October 2000 at which time the husband's semen was rechecked. This revealed 100% round-headed sperm and a diagnosis of male factor globozoospermia was made. The couple was counselled about possible treatment options – ICSI or donor insemination. The couple opted for ICSI, and the first cycle was initiated in November 2000.

ICSI protocol

For the first ICSI cycle, down-regulation was achieved with leuprolide acetate 1 mg/day from day 21 of the woman's cycle and was confirmed with sonography and oestradiol 17 pg/mL 3 days later. Stimulation commenced with 225 IU of follicle-stimulating hormone (FSH) and leuprolide was reduced to 0.5 mg/day. The woman received a total of 8 days of stimulation and ovum pick up (OPU) took place on day 13. Fifteen oocytes were retrieved, and 10 mature eggs were injected. Two fertilized nor-

grade 2 embryo, which was transferred 48 hours after OPU. Luteal phase support consisted of progesterone in oil at 50 mg/day. No pregnancy resulted.

A second ICSI cycle was conducted in February 2001 with down-regulation following the same procedure as in the first cycle. A total of 13 oocytes were retrieved, of which eight mature eggs were injected. One was fertilized and cleaved into a four-cell, grade 1 embryo. Embryo transfer resulted in a singleton pregnancy. The woman delivered a full-term, healthy child by caesarean section.

Conclusion

While ICSI procedures are able to overcome male infertility associated with globozoospermia,³ resulting in a normal and healthy live birth, no amount of intervention can be substituted for an adequate initial diagnosis. The need for proper assessment of semen quality by appropriately trained personnel should not be underestimated. ■

References

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3. Stone S, O'Mahony E, Khalaf Y, et al. A normal livebirth after intracytoplasmic sperm injection for globozoospermia.