Fertility Design
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Intracytoplasmic Sperm Injection (ICSI)

Introduction

Although in-vitro fertilization (IVF) has been used successfully for decades, it is not very successful when there are major problems involving numbers, ability to swim and shape of the sperm. In such cases it may be necessary to bypass the conventional method of allowing sperm to penetrate the egg by injecting a single spermatozoon through the zona pellucida (the shell of the egg). This procedure is known as **Intra-Cytoplasmic Sperm Injection** (ICSI).

ICSI has replaced all similar techniques because it gives more predictable results and better fertilization rates. Human ICSI started in 1988, with the first pregnancies in 1991. The average fertilization rate per egg injected is about 60-70%, so more than 90% of patients have at least one egg fertilized. Unfortunately, eggs from a small proportion of patients still fail to fertilize even when using ICSI. The HFEA granted the London Fertility Centre a license to offer ICSI in May 1993 and since then over 4000 ICSI treatment cycles have been performed. Please refer to the accompanying sheets for details of our most recent ICSI success rates.

Who can benefit from ICSI?

ICSI can help:

- Couples in whom fewer than 20% of eggs fertilise by conventional IVF.
- Couples in whom the man has an abnormal semen analysis with one or more of:
    - A count of less than 20 million per ml
    - Motility of less than 20% (asthenozoospermia)
    - Spermatozoa with poor forward progression
    - More than 80% abnormally shaped sperm
    - Antisperm antibodies

Couples in whom, the man has a small volume of semen or unexpectedly poor semen analysis on the day of egg collection.

Clinical and laboratory management

On the day of egg collection the husband/male partner produces a semen sample. A second sample may be needed that day if the first sample is not suitable or sufficient.

Embryo Transfer

Treatment during and after embryo transfer is the same as for routine IVF.

Treatment Variation
Occasionally, eggs from one patient are split into two groups with one half undergoing conventional IVF and the other half ICSI. The purpose of this strategy is to determine whether or not fertilization by conventional IVF is possible. However, the Human Fertilization and Embryology Authority (HFEA) Code of Practice allows embryos from conventional and ICSI cycles to be transferred together in only 2% of treatments, so we try to avoid this option where possible. The decision depends upon the number of eggs and spermatozoa available, and the fertilization outcome in previous treatment cycles.

Summary

ICSI is the most effective treatment for couples in whom the man is infertile. Any concerns relate more to the underlying genetic problem making ICSI necessary, rather than to the ICSI procedure itself. Our medical and scientific staff are available for any questions you may have relating to ICSI. As with all our patients we wish those having ICSI every success.