

## How to improve ART outcome by gamete selection

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Gubbio

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The aim of the symposium was to bring together the competencies of clinicians and scientists in order to identify early prognosis regarding the developmental fate of a single gamete. The selection of the “best” oocyte and spermatozoa for in vitro fertilization plays a crucial role especially where for religious, ethical or legal reasons the creation of supernumerary embryos has to be avoided. This is particularly true in Italy where the law impose a limitation on the number of oocytes to be used per cycle.

Different ovarian stimulation protocols and drugs were proposed and analyzed in order to improve the oocytes quality.

In contrast to IVF, in ICSI the surrounding cumulus and corona cells must be removed completely, as only denuded oocytes can be successfully micromanipulated. This ancillary effect of ICSI allows focus on the morphology of the oocyte before fertilization. Furthermore, the recent development of a computer-assisted polarization microscopy system (Polscope) with which the microtubules can be visualized in living oocytes on the basis of their birefringence permits in vivo analysis of the meiotic spindles of denuded oocytes subjected to ICSI.

In addition, applying intracytoplasmic sperm injection, the selection of the spermatozoon for injection is performed directly by the biologist. Therefore, there is a need for prognostic parameters to estimate the quality of the single spermatozoa.

The Conference explored the main reasons for oocyte and sperm impairment, and defined the possible predictive factors for successful gamete selection prior to fertilization.

### OBJECTIVES

At the end of this meeting the participants were able to:

- Describe the best ovarian stimulation protocols;
- Describe the methods of follicle and oocyte selection;
- Describe the importance of sperm selection;
- Recognize the meiotic spindle and understand its possible role in oocyte selection;
- Understand laboratory skills used to improve embryo quality.

### ACCREDITATION

Serono Symposia International Foundation ([www.seronosymposia.org](http://www.seronosymposia.org)) has submitted this program “How to improve ART outcome by gamete selection” (Gubbio, Italy – October 7-8, 2005) for accreditation by the European Accreditation Council for

Continuing Medical Education (EACCME).

The Italian National Commission for Continuing Medical Education has accredited this Sero International Foundation event, n. 1361-202972, entitled "How to improve ART outcome by gamete selection" (Gubbio, Italy – October 7-8, 2005), for N. 9 (nine) CME credits.

