

PRE-CONGRESS WORKSHOP
PREIMPLANTATION GENETIC DIAGNOSIS (PGD) IN ASSISTED REPRODUCTION
TECHNOLOGY (ART)
Miami Beach, Florida, April 23, 2009 (13:00-17:00)

Chair: Luca Gianaroli, SISMER, Bologna, Italy
Presenters: Yury Verlinsky, Reproductive Genetics Institute, Chicago, IL
Santiago Munne Reprogenetics, West Orange, NJ
Christina Magli, SISMER, Bologna, Italy
Ilan Tur-Kaspa, Reproductive Genetics Institute, Chicago, IL

Workshop Outline:

With the current expanding application of PGD for pre-selection of aneuploidy-free embryos with higher developmental potential, there has been controversy on the evaluation of the actual clinical impact of the technique, mainly depending on the technical and laboratory standards of PGD performance. Although there is no doubt of the need for avoidance from transfer of aneuploid embryos, the limitations of PGD for aneuploidies should be explored, in order to work out the optimal strategy for detecting aneuploid oocytes and embryos. The Workshop will address different approaches for pre-selection process, including the preconception testing of oocytes prior-to ICSI, embryo biopsy at cleavage and blastocyst stages and the importance of performance standards of both biopsy procedures and genetic analysis. A special emphasis will be on the approaches to perform PGD in different social settings, as embryo biopsy is not acceptable in some countries, with the testing to be completed prior to fertilization. On the other hand, the differences in the embryos biopsy procedures appeared to be important in achieving the expected outcome of PGD, as well as the appropriate number of chromosomes to be tested with sufficient success rates of the applied FISH procedure. Finally, the error rates of each of the approaches, depending on the technique applied, need to be carefully analyzed to provide the accurate information on PGD impact on implantation, pregnancy and take home baby rates. So the Workshop will provide the expert assessment of the state of the art of PGD for aneuploidies, to increase awareness of the impact of pre-selecting of embryos with the optimal developmental potential, as a tool for improving the success rate in poor prognosis IVF patients.

Learning Objectives:

At the conclusion of this Workshop, the participants should be able to:

- (1) Evaluate the accuracy and impact of pre-selection of aneuploidy free oocytes and embryos, and its practical relevance to the improvement of IVF effectiveness.
- (2) Outline limitations of preimplantation aneuploidy testing, depending on the approaches to biopsy and genetic analysis, and evaluate the optimal strategy for detection and avoidance of aneuploid embryos from transfer.

Provisional Program:

- (1) Indications for PGD of Aneuploidies and Its Present Status- L Gianaroli
- (2) Pre-Zygotic Testing - Key Component of PGD for Aneuploidies-Y Verlinsky
- (3) PGD for Aneuploidies at the cleavage and blastocyst stages and their associated error rates – S Munne
- (4) Impact of Pre-selection of Aneuploidy-Free Oocytes with a Few Permitted to Fertilize C Magli
- (5) Evaluation of Clinical Outcome of PGD for Aneuploidies- I Tur-Kaspa