

From Genetics to Implantation and Early Fetal Development in Infertile Couples

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Chromosomal abnormalities in gametes and preimplantation embryos affect dramatically the outcome of assisted reproductive techniques. Preimplantation genetic diagnosis has been used to prevent the transmission of chromosome anomalies to the offspring and recommended to increase the implantation rates in patients undergoing assisted reproductive techniques (ART) who experienced repeated implantation failures. The primary goal of ART is to replace a single euploid embryo, in order to achieve a successful implantation and a normal ongoing pregnancy. Implantation involves complex interactions and a series of steps leading to an effective communication between the embryo and the endometrium. This communication is represented by a molecular dialog, with the participation of growth factors, angiogenic factors, apoptotic factors and adhesion molecules. The transfer of the highest quality embryos associated to an optimal receptivity of the endometrium will determine the highest implantation rates, allowing the transfer of a single embryo without compromising the outcome of ART and avoiding multiple pregnancies.

The aim of this meeting is to provide current knowledge of genetic analysis of human gametes and embryos and to establish the strategies for the study of uterine receptivity for human embryo implantation. The participants also gained an understanding of early fetal development and the value of early ultrasound examination for prenatal diagnosis and assessment of fetal anatomy.

OBJECTIVES

At the conclusion of this conference the participant was able to:

- Describe the current strategies of genetic evaluation of oocytes and sperm.
- Understand preimplantation genetic screening of human embryo.
- Describe the maternal-embryonic communications on human implantation.
- Describe the biological markers of endometrial receptivity and predictive factors for embryo implantation potential.
- Understand the role of high frequency transvaginal and tridimensional ultrasound in the early stages of embryo fetal development.

ACCREDITATION

This program "From Genetics to Implantation and Early Fetal Development in Infertile Couples" will be submitted for accreditation by the European Accreditation Council for Continuing Medical Education (EACCME).

EACCME credits are recognized by the American Medical Association towards

Physician's Recognition Award (PRA). To convert EACCME credit to AMA PRA category 1 credit, contact the AMA.

CME accreditation for the conference "From Genetics to Implantation and Early Fetal Development in Infertile Couples" has been applied for from The Royal College of Physicians, London, UK.

This program "From Genetics to Implantation and Early Fetal Development in Infertile Couples" has been submitted for CME accreditation from the Italian Ministry of Health.

