Fertility 2011 Congress, the 7th biennial conference of the UK Fertility Societies, will be held in Dublin from 5-7 of January

7 out of 10 British women that travel to Barcelona to become mothers are over 40 years of age.

- **Analysis of all embryo chromosomes in these couples allows doubling their chances of achieving a pregnancy.**
- **75 % of British couples that undergo IVF treatments have male factor infertility.**

Barcelona, December 28, 2010 - 70% of British women that travel to Barcelona to become mothers are over 40 years of age and because of their age, special assisted reproductive techniques are required in order for these couples to have a healthy baby.

According to the study, "*Improved pregnancy rates in advanced maternal age"* that Institut Marquès and the Centre for Embryo Medicine will be presenting at the Fertility 2011 Congress in Dublin, Preimplantational Genetic Diagnosis (PGD) for all embryo chromosomes using a novel FISH technique developed at Institut Marques allows increasing pregnancy rates in these couples from 22.2 to 58.3 %.

"*For the first time, using this new FISH we can now analyze the complete human karyotype before the embryo is transferred, opening the door for future pregnancies in couples that up to now had little or no chances of becoming parents*", says Dr. Esther Velilla, Lab Director of Institut Marquès.

The analysis of all the chromosomes of the human karyotype allows detecting more chromosomal anomalies before embryo transfer.

The new FISH technique developed at Institut Marques that is now being applied to PGD, allows analyzing all embryo chromosomes in a single cell obtained from the embryo and find out those embryos that are healthy and transfer these embryos to the uterus of the woman.

The study of the R&D team of Institut Marques which will be presented at the Fertility 2011 Congress indicates that analysis of all chromosomes of the embryo (and not only 9, as up to now had been done using conventional techniques) allows detecting embryo anomalies that would have gone unnoticed if only 9 chromosomes were analyzed.

More specifically, these researchers found that about one-fourth of the embryos derived from in vitro fertilization that were analyzed using the new FISH technique had chromosomal anomalies impossible to detect using conventional PGD techniques.

According to Dr. Esther Velilla, "*what couples undergoing assisted reproduction really look for is for a healthy baby and this is now within reach: at last they can access to PGD for all chromosomes, thus significantly improving IVF success rates because we are transferring chromosomally normal embryos at the best time of embryo development and without the need for cryopreservation".*

75 % of British men from couples undergoing assisted reproduction treatments have a male factor of infertility

It is estimated that in more than half of these couples, the limiting factor of their infertility problem is a male factor. In the case of British couples, 75% of the couples that are seen at Institut Marques have male factor infertility and, in most cases, they have a genetic male factor that can be diagnosed by FISH in semen or by the study of meiosis in testicular biopsy.

According to the study, *Clinical value of the study of meiosis in testicular biopsy,* that Institut Marquès also will be presenting at the Fertility 2011 Congress in Dublin, 6 out of 10 couples with long-term infertility have a meiotic anomaly. Meiosis is a central process in reproduction in which genetic recombination takes place and the number of chromosomes is reduced from 46 to 23. Therefore, a normal meiosis process in sperm is of paramount importance in order to obtain chromosomally normal embryos and healthy babies.

"*In these cases, PGD also significantly improves pregnancies rates because sperm from these males carry chromosomal abnormalities that are introduced into the embryo"*, says Prof. Juan G. Álvarez, Scientific Director of Institut Marquès and Professor at Harvard Medical School.

About Institut Marquès

Institut Marques is a tertiary care referral centre in Barcelona for the treatment of infertile couples worldwide, specialized in the diagnosis and treatment of couples with long-standing unexplained infertility, genomic male factor and the development of cutting-edge technologies for Preimplantational Genetic Diagnosis (PGD).