32° CONGRESO NACIONAL SOCIEDAD ESPAÑOLA DE FERTILIDAD
7° CONGRESO NACIONAL DE ENFERMERÍA DE LA REPRODUCCIÓN
MADRID 16, 17 Y 18 DE MAYO 2018 PALACIO MUNICIPAL DE CONGRESOS
#SEF2018

264828

How do laboratory embryo transfer procedures affect preliminary IVF outcomes?

Authors: Rocío P. Cotarelo, Valentina Ditroilo, Patricia Dapena De Paz, Laura García Bernardo, Enriqueta Garijo López, Federico Galera Fernàndez

Center: Instituto Madrileño de Fertilidad

Introduction

Changes in temperature, CO2 and light parameters can affect embryo development potential. The longer the interruption of stable embryo culture, the worse outcome in terms of positive b-HCG and implantation rate are observed. Some IVF centres have been operative for a long time and lack an optimal design, with the OR in direct connection with the laboratory. Atmospheric CO2 levels can alter the media culture's pH where the embryo grows. In spite of using hot chambers and protection from light during the transport, stress responses from the cells could account for a lower competence of the embryos.

Materials and Methods

Retrospective study including 40 patients whose frozen-thawed embryo transfer were performed between May 2015 and May 2016. Only patients with all quality A and B embryos (ASEBIR criteria) were selected to avoid byass due to low embryo quality (with lower implantation potential). Two groups were made: those patients transferring in a medical consult communicating directly with the laboratory through a door/window and those transferring in the OR (10 meters away). Patients' age range was between 35 and 45 years old. Thawed embryo transfer was chosen due to standard endometrial preparation. This was made following the same protocol with exogenous administration of estrogen and progesterone. An average of 10-12 seconds was spent to reach the OR. A heating block was used in all cases and the transfer dish was protected from light during the transport..

Results:

Differences have been observed between the two groups. Positive b-HCG results are higher in the group performing embryo transfer in close proximity to the IVF laboratory compared with the group of patients in which the transfer was performed in the OR (29% vs 16%). This difference is greater if we divide patients between those performing SET (13.3% vs 7.7%) and those transferring 2 embryos (66.6% vs 50%). Differences are not statistically significative due to low number of patients but a strong trend can be observed.

Conclusions:

Even small changes in temperature/CO2 can affect embryo implantation potential. Although this study has a limited number of patients and further studies would be required to confirm this trend, it would be advisable to confirm if this different procedure also has an effect on the pregnancy development or in further neonatal parameters. If the trend is confirmed it would be mandatory to revise procedures and ensure that the transfer is performed in close proximity to the laboratory, so the period of time in which the embryos are not under controlled temperature/CO2 parameters is minimum.