

**PROSPECTIVE AND RANDOMIZED STUDY TO COMPARE TWO PH LEVELS (7.20-7.25 VS 7.35-7.40) IN OOCYTE RECIPIENT PATIENTS**

**S. Carmona Guede**<sup>1</sup>, J.M. Molina Sabater<sup>1</sup>, M. Belles Fernandez<sup>1</sup>, J. Teruel Lopez<sup>1</sup>, M. Martin Salat<sup>1</sup>, A. Ballesteros Boluda<sup>1</sup>, A. Pellicer<sup>2</sup>, G. Calderon de Oya<sup>1</sup>

<sup>1</sup> *IVI Barcelona*

<sup>2</sup> *IVI Valencia, Spain*

**OBJECTIVE:** Study the effect of culturing embryos of in vitro fertilization (IVF) cycles with low pH levels (7.20-7.25) or high pH levels (7.35-7.40).

**DESIGN:** Prospective, randomized controlled study of 65 oocyte recipient patients.

**MATERIALS AND METHODS:** Sixty-five IVF cycles of oocyte recipient patients were randomly allocated the day before oocyte retrieval in two groups: Group A (low pH level); Group B (high pH level). Incubator's set up was modified to obtain 2 different CO<sub>2</sub> levels in order to acquire 2 different pHs levels, low (7.20-7.25) and high (7.35-7.40). Same culture media was used in all cases and embryo replacements were performed on Day3 of development.

Student t-test and chi-square test were used for and statistical analysis.

**RESULTS:** Both groups were comparable in terms of women's age, number of oocytes retrieved and mean number of embryos replaced.

We found that fertilization, embryo development, clinical pregnancy and implantation rates were not influenced by the pH level.

However, multinucleation (MN) rate, determined by at least 1 MN blastomere, was significantly higher in group B. This was only observed in embryos of Day3 of development. (Group A: 6.40% vs. group B: 12.14%; p-value: 0.012).

**CONCLUSION:** Statistical results show both, that there are no clinically significant differences between groups with different pH levels and an increase in the rate of multinucleated blastomeres with high pH level on day Day3 of development. From these results we conclude that there is not negative impact on the overall clinical outcome, possibly due to an exhaustive embryo selection criteria.