

## **DEVELOPMENT AND OUTCOME OF EMBRYOS FROZEN ON DAY 3 AND CULTURED TO BLASTOCYST STAGE**

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**Introduction:** Embryo cryopreservation is an effective technique that improves stimulation cycle outcomes and allows diminishes the number of embryos transferred. The aims of this study are to evaluate de development of day 3 cryopreserved embryos, and compare their transfer outcome with embryos cryopreserved on day 5.

**Materials and Methods:** Retrospective database analysis of clinical pregnancy, implantation, cancellation, twin pregnancy and miscarriage rates in 496 frozen embryos transfers.

We study 3 different groups:

1. Embryos frozen and transferred on day 3 (N=240)
2. Embryos frozen and transferred on blastocyst stage (N=200)
3. Embryos Frozen on day 3, cultured and transferred on blastocyst stage (N=56, study group).

We excluded egg recipients and PGD cycles. All the embryos were cultured in Global media and vitrified using Kitazato tools and solutions (Cryotop method). t test and chi square test were performed to compare average values and percentages, and p values less than 0.05 were regarded as significant.

**Results:** There were no statistical differences among groups in average age, number of embryos thawed and number of embryos transferred.

The clinical pregnancy rate was higher in the sequential culture group, but no significant (group1=39.8%, group2=38.9%, group3=47.8%) and the implantation rate (group1=24.1%, group2=31.4%, group3=38.4%; p=0.007). In the other hand the cancellation rate was higher (group1=7.9%, group2=7.5%, group3=17.8%; p=0.04).

**Conclusion:** We observed that the development to blastocyst stage of these supernumerary embryos frozen on day 3 is a good option in the lab, because that increases the outcome of the frozen-thawed cycle, although we cancel more embryos transfers. It is strongly recommendable in cases of single embryo transfer, or when the patients achieved no pregnancy in the fresh embryo transfer and prefer a transfer with high possibilities, assuming the cancellation risk.