R-121. High survival rate after oocyte cryopreservation does not correlate with successful outcome

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Introduction: For years, the need to establish successful oocyte cryopreservation programmes/protocols has been the challenge of assisted reproduction centres and laboratories. The aim of this study was to evaluate the correlation between survival rate and fertilization, cleavage, and pregnancy rates after thawing cryopreserved oocytes.

Materials and methods: Seventy-four oocytes were divided into two groups for cryopreservation according to the removal and non-removal of the cumulus corona complex (CCC): group A, non-denuded oocytes (n = 48), and group B, denuded oocytes (n = 26).

The protocol for cryopreservation used was slow-freeze–rapid-thaw 1.2 propanediolsacrose (*Fertil. Steril.*, 1998, **69,** 555–557). After thawing, all surviving oocytes were inseminated by ICSI. Fertilization was determined by the presence of two pronuclei 18 h post-insemination.

Results: Six of 48 oocytes survived in group A and 15 of 26 in group B (12.5 versus 57.69% respectively, $P < 0.05$). Three of six oocytes fertilized in group A while five of 15 showed signs of fertilization in group B (50 versus 33.3% respectively, $P < 0.05$). Three of three embryos presented signs of cleavage in group A while four of five embryos cleaved in group B (100 versus 80% respectively, n.s.). In group A one healthy baby boy was born at 38 weeks of gestation by Caesarean section, while no pregnancy was achieved in Group B.

Conclusion: Our results show that the survival of non-denuded cryopreserved oocytes is significantly lower than that of denuded oocytes. However, we have a live birth in a group of oocytes with a very low survival rate and no pregnancy in the group with high survival rate. This leads to the reconsideration of the removal or non-removal of the cumulus corona complex. According to our results, the survival rate of oocytes after cryopreservation and thawing has no direct correlation with the fertility rate, cleavage rate, and successful pregnancy outcome.

R-122. Evaluation of developmental capacity of morula, early blastocysts, blastocysts and expanded blastocysts

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Introduction: Prolonged culture in sequential media to day 5 after conventional in-vitro fertilization (IVF) or intracytoplasmic sperm injection procedures is associated with a high pregnancy and implantation rate. A heterogeneous population of embryo development and embryo quality was observed after 5 days of culture. Several publications report that in an average of 45%, embryos cleaved to the morula (M), early blastocysts (EB), blastocysts (B) and expanded blastocysts (ExB) and transfers were performed in general with a mixture of them. The aim of this study was to analyse the developmental capacity of each of the different stages after day 5 transfer.

Materials and methods: During the first 3 days, fertilization and early cleavage was performed in IVF 50 (IVF Science). Embryos allocated to embryo transfer on day 5 were cultured in S2 medium (IVF Science). The stage of the embryos was assessed very carefully.

Table I.

	Transfers with only			
	M	EB	B	ExB
No. of transfers	10	28	12	14
Mean embryos transferred	3.8	2	2	2.4
Ongoing pregnancy rate (%)	0 (0)	8 (29)	5 (42)	9 (64)
Implantation rate (%)	0/38 (0)	9/55 (16)	6/25 (24)	18/34 (52)

A total 103 transfers performed on day 5 resulted in an overall ongoing pregnancy and implantation rate of respectively 40% and 19%. In 64 out of 103 transfers, the patients received only one type of embryo.

Conclusion: There is a difference in the developmental potential of each type of embryo obtained after prolonged culture in sequential media to day 5. The capacity of ExB to implant is very high and in such cases a maximum of only two embryos should be transferred. The number of embryos reaching the ExB stage is reduced in women older than 37 years due to a previous arrest in development. Therefore there is a need to improve our knowledge of embryo culture and follicular stimulation in order to obtain a better oocyte quality especially in older women. In cases of day 4 transfers, pregnancies were obtained only after transfers of morula and none from embryos exhibiting delayed development.

R-123. Pregnancy and implantation rates after transfers on day 4 and 5 of fresh and vitrified embryos

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Introduction: The use of sequential medium offers the chance to perform a prolonged culture of embryos up to the expanded blastocyst stage. This study was undertaken to evaluate the