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OOCYTE BANK SET UP BY COMPARING DIFFERENT VITRIFICATION DEVICES. F. Weatherby,[a] S. Keyhan,[b] A. Kumar,[a] G. Hubert,[a] R. Buyalos,[a] M. Li.[a] [a]Fertility and Surgical Associates of California, Thousand Oaks, CA; [b]Kaiser Permanente, Los Angeles, CA.

OBJECTIVE: Our goal is to determine the effects of elevated serum progesterone (P4) at the day of human chorionic gonadotropin (hCG) trigger on the clinical outcomes following in vitro fertilization-embryo transfer (IVF-ET).

DESIGN: Retrospective case control study.

MATERIALS AND METHODS: We reviewed 655 IVF-ET cycles in which ovulation were performed using antagonist protocol. The thresholds of serum P4 were set at 1.4, 2.0 and 2.5 ng/ml. Patients with a level of P4 less than the threshold were subjected to control group, and those with a level higher than threshold were subjected to elevated p4 group. The clinical outcomes between two groups were compared.

RESULTS: The total number of retrieved oocytes was significantly higher in elevated P4 group (18.8±10.8, 22.2±10.8 and 25.2±10.8) than in control(12.2±7.7, 14.0±9.1 and 14.8±9.5) at all three P4 thresholds(p=0.000). The number of blastocysts was also significantly higher in elevated P4 group (4.5±4.5, 5.6+5.5 and 6.2±5.9) than in control (2.7±3.1, 3.2±3.5 and 3.2±3.6) at all thresholds (p=0.000). However, when the thresholds were set to 2.0 and 2.5ng/ml, the clinical pregnancy rate was lower in the elevated P4 group (41.6% and 37.3%) than in control (46.3% and 46.0%), but the difference were not statistically significant (p=0.197, p=0.144 respectively). The fertilization rate was not different.

	HSV	Homemade	Cryotop	total
% Survived	81.4	84.6	71.4	82.6
Fertilization Rate	88.6	78.2	60	81.1
Transferred	2	2	2	2
Blastocyst Rate	19.4	34.9	100	31.2
% Positive HCG	100	62.5	100	77
Implantation Rate	62.5	54.5		57.9

CONCLUSION: Our data demonstrated that higher serum progesterone reflects good follicular recruitment and better chance of obtaining blastocysts for transfer or cryopreservation.Our data suggested that elevated P4 levels may adversely affect clinical pregnancy rate in IVF-ET patients. However, the difference was not sufficient to warrant a clinical intervention such as deferring fresh embryo transfer and freezing all embryos for future transfer.To elucidate the mechanisms underlying the increased probability of pregnancy in FET than ET, additionalfactors should be analyzed.

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THE IMPACT OF VITRIFICATION IN GAMETE AND EMBRYO DONATION PROGRAMME: FIVE YEARS EXPERIENCE ON MORE THAN 10000 HUMAN OOCYTES/EMBRYOS. H. I. Tekin,[a] O. Coban,[b] A. Kizilkanat,[b] N. Findikli,[c] M. Bahceci.[d] [a]Clinical Department, Northern Cyprus IVF Centre, Famagusta, Cyprus; [b]IVF Laboratory, Northern Cyprus IVF Cenre, Famagusta, Cyprus; [c]IVF Laboratory, Bahceci Fulya IVF Centre, Istanbul, Turkey; [d]Clinical Department, Bahceci Fulya IVF Centre, Istanbul, Turkey.

OBJECTIVE: Numerous reports have been published in the literature regarding the promising and effective use of the vitrification technology for oocyte and embryo cryopreservation. This study has been performed in order to evaluate the impact on this technology on oocyte/embryo donation programmes by evaluating embryological as well as clinical outcome for more than 10000 oocytes/embryos that were used in IVF treatment between 2007-2012.

DESIGN: A retrospective, observational cohort study performed between January 2007 and December 2012.

MATERIALS AND METHODS: A total of 1925 patients undergoing 2547 oocyte and embryo donation cycles were included in the study. In order to document and compare the cycle outcomes, the treatment data were subcategorized according to the oocyte cryopreservation technique used. Among them, oocytes and embryos cryopreserved by vitrification in 789 cycles. Since vitrification has been introduced in the clinic in 2010, the data regarding fresh oocyte retireval /embryo transfers in which donors-recipients has been synchronized for the treatment before and after 2010 were also included as control groups.

RESULTS: In our oocyte and embryo donation programme, vitrification technique has clearly shown to give acceptable and comparable embryological as well as clinical outcome, resulting in positive pregnancy rates of 56.3% for oocytes and 62.3% for embryos. These values were not significantly different from the fresh ovum donation and/or embryo transfer data of 57% for oocytes and 56.6% for embryos in donation cycles respectively.

CONCLUSION: In donation programmes, vitrification technique shows superior clinical outcome and has become very advantageous compared to conventional slow freezing approaches. This technique offers realistic expectations to both embryo and oocyte donation programmes with acceptable results hence should be the method of choice in the current egg donation and banking systems.

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EFFICIENCY OF NON-PROTEIN SOLUTIONS USING HYDROXYPROPYL CELLULOSE ON SURVIVAL OF BOVINE AND HUMAN OOCYTES AND EMBRYOS AFTER VITRIFICATION. M. Kuwayama. Repro-support Medical Research Centre, Shinjuku, Tokyo, Japan.

OBJECTIVE: Vitrification is an alternative method of cryopreservation in ART, resulting in significantly improved survival rates of oocytes and embryos, and with excellent clinical outcomes. To reduce risk of viral contamination, government regulators have stipulated that non-serum substitutes must be used ART. The purpose of this study was to test the efficacy of a synthetic macromolecule, hydroxypropyl cellulose (HPC), for use as a supplement in vitrification solutions.

DESIGN: In vitro survival and clinical outcome of bovine and human oocytes and blastocysts after vitrification using non-protein vitrification solutions containing HPC were examined and compared with conventional vitrification method.

MATERIALS AND METHODS: Four experiments were conducted to assess the efficacy of non-protein VS for oocytes and blastocysts. Four-hundred and twenty bovine oocytes and 300 blastocysts and 154 human oocytes were vitrified by the Cryotec method(Kuwayama, 2013). The solutions for vitrification were supplemented with 0.06 mg/ml HPC or with 10%SSS or with no added macromolecule (NA). Some HPC solutions and SSS solutions were stored at 4oC or -80oC for 12months before vitrification.

RESULTS: The survival rates of bovine oocytes vitrified in HPC, SSS and NA were 100%, 100% and 86% and the respective blastocyst rates were 22%, 18% and 8%, respectively. The survival rates of bovine blastocysts vitrified in HPC, SSS and NA were 99%, 93% and 88%, respectively.The survival rate of bovine oocytes vitrified in HPC solutions stored for 12 months at 4°C or -80°C was 100%; the rates for those vitrified in SSS solutions were somewhat lower than HPC. The survival rates of human oocytes vitrified in HPC, SSS and NA were 100%, 98% and 92%, respectively.

CONCLUSION: High morphological in vitro survival and growth of bovine and human oocytes, and also bovine blastocysts after vitrification using the solutions containing HPC suggest that this supplement can be effective for human oocytes and embryos vitrification.

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HIGHER SUCCESS RATES IN THAWED EMBRYO TRANSFER DURING NATURAL CYCLE AFTER CRYOPRESERVATION OF ALL FRESH EMBRYOS. A. Tanaka,[a] I. Tanaka,[a] M. Nagayoshi,[a] H. Kusunoki,[b] S. Watanabe.[c] [a]Saint Mother Hospital, Kitakyushu, Fukuoka, Japan; [b]Faunal Diversity Sciences, Graduate School of Agriculture, Kobe University, Kobe, Hyogo, Japan; [c]Department of Anatomical Science, Hirosaki University Graduate School of Medicine, Hirosaki, Aomori, Japan.

OBJECTIVE: It is well known that transfer of cryopreserved-thawed embryos during a natural or a programmed cycle yields an excellent