

of patients with <20 initial AFC revealed similar trend [Table 1]. No differences were observed between patients < or > than 35yo (p=0.58). Analysis of patients with AFC difference > 4 also showed the number of eggs retrieved is best reflected by initial AFC [Table 2].

TABLE 1. The Impact of Medications on AFC

	Ave AFC Baseline	Ave AFC on Meds	Ave Eggs
OCP/Lupron	13.07	10.54	12.63
OCP	9.44	7.35	8.99
Lupron	9.07	7.80	8.42
Estrace	7.72	7.08	7.24

TABLE 2. The Impact of Medications on AFC

	Ave AFC Diff (baseline-suppressed)	Ave Diff (eggs-baseline)	Ave Diff (Eggs-suppressed)
OCP/Lupron	-5.67	-1.79	3.66
OCP	-5.80	-2.48	3.16
Lupron	-6.00	-2.16	3.83
Estrace	-4.55	-1.44	3.11

CONCLUSIONS: These data show short courses of pretreatment medications have a negative impact on AFC. However, the best predictor of the number of eggs retrieved is the precycle AFC suggesting the suppressive impact of pretreatment does not alter the biological capacity of the ovary during stimulation.

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ICMART REPORT ON GLOBAL TRENDS IN ART FROM 2000-2004: HOW DOES THE USA COMPARE? G. D. Adamson, F. Zegers-Hochschild, K. G. Nygren, J. de Mouzon, O. Ishihara. Fertility Physicians of Northern California, Palo Alto, CA; Clinica las Condes, Santiago, Chile; IVF Unit, Sophihemmet Hospital, Stockholm, Sweden; INSERM U292, Le Kremlin Bicetre, France; Saitama Medica, Moroyama, Japan.

OBJECTIVE: To identify trends affecting efficacy and safety of ART through analysis of the International Committee Monitoring ART's (ICMART's) global database.

DESIGN: Retrospective analysis.

MATERIALS AND METHODS: Global trends relating to efficacy and safety for 2000, 2002, 2003 and 2004 were identified. Similarities and differences among North America (NA), Europe (EU), Australia/New Zealand (ANZ), Latin America (LA), Middle East (ME), Asia (AS) and selected countries were compared with the USA.

RESULTS: USA delivery rates per retrieval were stable from 2000 to 2004 at 31% while the EU improved from 16.4% to 22.5%. Cycles with 1 or 2 embryo transfer increased in USA from 34.5% to 49.4% and in EU from 61.5% to 74.6%. The average number of embryos transferred decreased in USA from 3.0 to 2.7. A global reduction of 3 to 2 embryos transferred in NA, EU and ANZ and from 4 to 3 embryos in LA, ME and AS occurred. The USA performed relatively fewer FET cycles but had higher pregnancy rates per transfer at 31.8%. For egg donation the USA doubled the number of cycles between 2000 and 2004 while the EU was stable, and increased delivery rates to over 50% which was double the EU. The USA reduced its triplet delivery rate from 4.3% to 2.6%, Canada 2.8% to 1.6%, the United Kingdom 2.3% to 0.3%, and Sweden 0.4% to 0%. The USA twin delivery rate dropped slightly from 31.1% to 30.4%. Only Sweden, with a major shift to single embryo transfer (SET), reduced the twin rate significantly, from 21.8% to 5.6%.

CONCLUSIONS: From 2000 to 2004 delivery rates were maintained despite the reduced average number of embryos transferred. FET is performed more frequently as embryo transfer number is reduced. Its efficacy is important to maintain cumulative delivery rates. Triplet delivery rate is reduced by transfer of 2 rather than 3 embryos, but reduction of twin rate requires SET. International data provide important insight into ART efficacy and safety.

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FACTORS AFFECTING THE OUTCOME OF FROZEN-THAWED EMBRYO TRANSFER. Z. Veleva, M. Orava, J. S. Tapanainen, H. Martikainen. Department of Obstetrics and Gynecology, Oulu University Hospital, Oulu, Finland.

OBJECTIVE: The relative importance of factors which affect frozen-thawed embryo transfer (FET) is poorly understood. The aim of the study was to identify which characteristics of the fresh and frozen cycles affect the chance of pregnancy in FET.

DESIGN: Retrospective study, multivariate logistic regression.

MATERIALS AND METHODS: Analysis was carried out on 2525 consecutive FET cycles with embryos frozen in 1998-2007. Of these, 392 (17.8%) were spontaneous, 1337 (60.7%) spontaneous with luteal progesterone and 438 (19.9%) were hormonally substituted FET cycles. At all times, embryos were graded using the criteria for top/non-top quality fresh embryos. We assessed the independent effect on pregnancy rate (PR) of age at freezing, diagnosis, type of infertility, fertilization (IVF vs. ICSI), total number of embryos, pregnancy in the fresh cycle, type of FET, number and presence (yes vs. no) of top quality embryo(s) at freezing, thawing and transfer, number of damaged thawed embryos, overnight culture and final endometrial thickness.

RESULTS: Compared with hormonally substituted FET, spontaneous cycles with luteal support increased the odds of pregnancy (odds ratio (OR) 1.7, 95% confidence interval (CI) 1.1-2.6). If ≥ 1 embryo had top quality morphology at: freezing but not at thawing (OR 1.9, CI 1.1- 3.3); at thawing but had subsequent developmental delay (OR 2.1, CI 1.4-3.4); at transfer in FET (OR 3.8, CI 2.4-5.8), the chance of pregnancy was improved, compared with cases in which only non-top embryos were frozen. Overnight culture (OR 1.5, CI 1.04-2.1) and final endometrial thickness (OR 1.1, CI 1.03-1.2) were other factors with significant effect on PR in FET.

CONCLUSIONS: Cycles with hormonal substitution are associated with lower PR than cycles with luteal support after a spontaneous ovulation. The chance of pregnancy increases with the presence of ≥ 1 top quality embryo in each consecutive step of the freezing and thawing process.

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OVARIAN STIMULATION: POOR RESPONDERS: ART

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GROWTH DIFFERENTIATION FACTOR-9 POLYMORPHISMS IN DIMINISHED OVARIAN RESERVE. T. Wang, Y. Wu, C. Feng, F. Qu, M. Dong, H. Huang. Department of Reproductive Endocrinology, Women's Hospital, School of Medicine, Zhejiang University, Hangzhou, Zhejiang, China.

OBJECTIVE: Growth differentiation factor (GDF-9) is an oocyte-secreted factor and is known to control folliculogenesis, oocytes competence and female fertility. Recently, different variants have been identified and related to premature ovarian failure (POF). The aim of this study was to investigate the role of GDF-9 polymorphisms in diminished ovarian reserve (DOR).

DESIGN: The design was prospective cohort study.

MATERIALS AND METHODS: Two hundred twenty-nine infertility women undergoing ovarian stimulation were included in the study. They were divided into two groups: DOR (n=106) and normal ovarian reserve (n=123), according to basal follicular-stimulation hormone (FSH), estradiol (E₂) and antral follicle count (AFC). The genetic analysis of GDF-9 gene was performed by DNA sequencing. Genotype distribution and influence of genotype on ovarian stimulation outcome were analyzed.

RESULTS: (1) The GA/AA genotype frequency of G546A was significantly higher (P<0.05) in women with DOR compared with women with normal ovarian reserve. (2) women carrying A allele in DOR showed higher risk for poor ovarian response, more dose of recombinant FSH, fewer mature oocytes and lower fertilization rate, good quality embryos and pregnancy rate compared with those in GG genotype subgroup of women with DOR as well as in both GG and GA/AA subgroups of normal ovarian reserve women. (3) There are no significant differences in genotype frequency of C447T polymorphism and its effects on ovarian stimulation outcome.

CONCLUSIONS: GDF-9 G546A polymorphism contributes to DOR and may account for poor ovarian response, declined oocyte quality and decreased pregnancy rate in women with DOR.

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