53,16 vs 43,96 (*P*:0.29) in SET group vs DET group. Perinatal complications were observed 7.7% in SET group, 61.5% in DET group (*P*:0.001).

CONCLUSION: These results suggest that under the new legislation multiple pregnancy rates and perinatal complications are significantly reduced without causing a significant decline in the pregnancy rates.

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EFFECT OF INTRAVENOUS IMMUNOGLOBULIN ON PREGNANCY OUTCOME FOLLOWING IVF/ICSI IN INFERTILE PATIENTS WITH ENDOMETRIOSIS. S.-K. Kwon,[a] C.-H. Kim,[a] J.-W. Ahn,[b] K.-H. Lee,[a] H.-D. Chae,[a] B.-M. Kang.[a] [a]Obstetrics and Gynecology, Asan Medical Center, Seoul, Korea; [b]Department of Obstetrics and Gynecology, Ulsan University Hospital, Ulsan, Korea.

OBJECTIVE: To investigate the effect of intravenous immunoglobulin (IVIG) treatment on pregnancy outcome following IVF/ICSI in infertile patients with endometriosis.

DESIGN: Prospective, randomized controlled trial.

MATERIALS AND METHODS: A total of 120 infertile patients with stage III or IV endometriosis were randomized in a 2:1 ratio to IVIG treatment group or control group. GnRH agonist (GnRH-a) long protocol was used for controlled ovarian stimulation (COS) in all subjects. For the treatment group (n=80), 10 gm of IVIG were administered on the day of oocyte retrieval. One to three embryos were transferred into the uterus on the third day after oocyte retrieval. The primary endpoint was the embryo implantation rate.

RESULTS: Patient's characteristics were comparable in the treatment and control groups. There were also no significant differences with respect to COS and IVF results between the two groups. However, embryo implantation rate was significantly higher in the treatment group of 22.3% (50/224) compared with 12.2% (14/115) in control group (*P*=0.024). Clinical pregnancy rate (CPR) was higher in the treatment group with a borderline significance (*P*=0.052). In singleton pregnant women following IVF/ICSI, serum β-hCG level on the eleventh day after embryo transfer was significantly higher in the treatment group of 180.2±45.7 mIU/ml compared with 82.8±26.7 mIU/ml in the control group (*P*<0.001). There were no differences in the miscarriage rate and multiple pregnancy rate between the two groups. No patients reported any adverse effects attributed to the use of IVIG.

CONCLUSION: IVIG treatment can improve the pregnancy outcome of IVF/ICSI in infertile patients with advanced endometriosis without serious adverse effects.

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CONCENTRATION OF VITAMIN AND STEROIDS IN RELATION TO AGE IN FOLLICULAR FLUID FROM IVF PATIENTS. Y. Choi, Y. E. Jeon, S. Cho, Y. Choi, B. Lee. Yonsei University, College of Medicine, Seoul, Seodaemoon-gu, Korea.

OBJECTIVE: To investigate the relationship between follicular fluid(FF) levels of 25-hydroxyvitamin D (25OH- D) with steroids and patient age in women who underwent IVF-ET treatment and to determine whether the level of 25OH-D in FF correlate with IVF outcome.

DESIGN: The prospective observational study.

MATERIALS AND METHODS: In total, 95 infertile women undergoing ART were enrolled between March 2008 and December 2011. FF was obtained from dominant follicles during oocyte retrieval. FF estradiol(E2), progesterone(P) and testosterone(T) were measured by radioimmunoassay, and 25OH-D by chemiluminescent immunoassay. A possible age-related effect on hormone concentrations in FF was evaluated in three age groups using the mean hormone concentration per patient. Linear regression analysis was performed to detect any correlations between the E2, P, T and 25OH-D concentrations in FF. Multivariable logistic regression analysis evaluated the relationship between FF 25OH-D and clinical pregnancy(CP) adjusting for parameters known to influence IVF outcome.

TABLE 1. Effect of follicular fluid hormone levels on the odds of clinical pregnancy following IVF

	Adjusted OR(95% CI)	*P* value
E2 (per 100ng/ml)	1.28 (1.05-1.56)	0.012
P (per 100ng/ml)	1.01 (0.84-1.20)	0.940
T (ng/ml)	1.35 (1.05-1.73)	0.042
25OH-D(ng/ml)	0.91 (0.78-1.06)	0.208

RESULTS: Concentration of FF E2, P and 25OH-D were unrelated to age, whereas level of T showed a significant positive correlation with age. We found a negative correlation between FF concentration of 25OH-D and E2. But, there were no statistically significant association found between 25OH-D and P, T in FF. Multivariable logistic regression analyses confirmed FF E2 and T level enhanced the likelihood for achieving CP (AOR=1.28 *P*=0.012, 95% CI 1.05,1.56;AOR=1.35 *P*=0.042, 95% CI 1.05,1.73, respectively). There was no significant increase of CP rates related with FF 25OH-D concentration.

CONCLUSION: Our findings suggests that FF 25OH-D is not a significant factor in the outcome of ART and it is not altered by advancing age.

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WITHDRAWN

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ASSISTED REPRODUCTION TECHNOLOGY (ART) SERVES THE FERTILITY NEEDS OF HEALTHY HIV SEROPOSITIVE WOMEN. S. K. Nurudeen, L. C. Grossman, M. V. Sauer, N. C. Douglas. Obstetrics and Gynecology, Columbia University College of Physicians & Surgeons, New York, NY.

OBJECTIVE: To compare the ART outcomes of HIV seropositive women to age-matched seronegative controls.

DESIGN: Retrospective case-control study.

MATERIALS AND METHODS: A review of all HIV serodiscordant and seroconcordant couples who pursued pregnancy with ART at a single center from January 1998 to December 2011 was conducted. HIV seropositive women with an uninfected or infected male partner and those desiring pregnancy with donor sperm were identified (n=36). All fresh and frozen IVF-ICSI cycles were included (n=88). 92% of seropositive women were using antiretrovirals and all had undetectable viral loads at time of cycle initiation. Clinical outcomes of seropositive women were compared in a 1:1 ratio to those of randomly selected age-matched seronegative controls undergoing IVF-ICSI for male factor infertility during the same time period. Comparisons were stratified by age, women <35 and ≥35 years.

RESULTS: Fifteen of the 25 cycles that resulted in clinical pregnancy led to live births with all 21 infants born without HIV infection. 40% of the live births were twins. HIV seropositive and seronegative women <35 years had nearly identical IVF clinical outcome parameters.

IVF-ICSI cycle outcomes stratified by age

	HIV seropositive <35 years	Controls <35 years	HIV seropositive ≥35 years	Controls ≥35 years
Day 2 FSH (mIU/ml)	6.8±2.9	5.3±1.6	8.5±5.1	7.7±2.8
Day 2 Estradiol (pg/ml)	39.0±13.8	32.4±8.3	44.3±16.7*	38.4±12.6*
Oocytes retrieved	13.7±7.7	20.3±8.2	10.7±6.5	11.1±7.4
Fertilization rate	88%	70%	67%	75%
Clinical pregnancy rate per ET	71%	75%	18%	28%

For women ≥35 years, no significant differences in clinical outcome parameters were observed aside from baseline serum estradiol levels. 60% of live births and 50% of twins occurred in women ≥35 years.
* $P<0.05$.

CONCLUSION: This study demonstrates that the presence of well-controlled HIV infection in women does not impair fertility treatment or outcomes in women undergoing IVF. HIV seropositive women should be encouraged to seek treatment in appropriate cases.

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IVF OUTCOMES ARE PARADOXICALLY POORER UNDER AGE 25. L. H. Wu,[a] K. C. Humm,[b] L. E. Dodge,[a] D. Sakkas,[c] M. R. Hacker,[a] A. S. Penzias.[b,c] [a]Obstetrics & Gynecology, Beth Israel Deaconess Medical Center, Boston, MA; [b]Obstetrics & Gynecology; Division of Reproductive Endocrinology & Infertility, Beth Israel Deaconess Medical Center, Boston, MA; [c]Boston IVF, Waltham, MA.

OBJECTIVE: The clear decline in cumulative live birth rates with increasing age has been well documented; however, the reproductive performance of very young women (<25 years) has been less carefully investigated. We report IVF outcomes in very young women compared with women 25 to <30 and 30 to <35.

DESIGN: This is a retrospective cohort study.

MATERIALS AND METHODS: We collected demographic, laboratory, treatment cycle characteristics, and IVF treatment outcomes on women undergoing their first cycle of IVF using their own oocytes from January 1995 through January 2011. We stratified women by their age at the start of the cycle (<25, 25 to <30, and 30 to <35) and compared IVF outcomes. The primary outcome of interest was live birth.

RESULTS: Cycle characteristics and outcomes of the 6,606 women who met inclusion criteria are stratified by age and shown in Table 1. While there are no significant differences in number of oocytes retrieved, very young women have poorer fertilization, pregnancy and live birth outcomes. The incidence of live birth is significantly lower among women <25 than among women 25 to <30 (P=0.006) and women 30 to <35 (P=0.007). There is no difference between the two older groups (P=0.66).

CONCLUSION: Our data confirm prior reports of less favorable IVF treatment outcomes in very young women. Future data will include evaluation of IVF outcomes in donor oocyte cycles stratified by these same age groups in an effort to identify the optimal oocyte donor age.

Characteristics of women undergoing their first IVF cycles by age group

Characteristic	<25 yrs, Median (IQR), n=185	25 - <30 yrs, Median (IQR), n=1566	P	30 - <35 yrs, Median (IQR), n=4855	P
Age	23.8 (23.0–24.5)	28.5 (27.4–29.3)	<0.001	32.7 (31.5–33.9)	<0.001
Oocytes retrieved	12.0 (7.0–16.0)	11.0 (7.0–16.0)	0.84	10.0 (7.0–15.0)	0.12
Fertilization (2pn)	5.0 (2.0–9.0)	6.0 (4.0–10.0)	0.009	6.0 (3.0–9.0)	0.16
Chemical pregnancy—n (%)	52 (28.1)	619 (39.5)	0.002	1902 (39.2)	0.003
Clinical pregnancy—n (%)	43 (23.2)	536 (34.2)	0.003	1648 (33.9)	0.003
Live birth—n (%)	38 (20.5)	475 (30.3)	0.006	1444 (29.7)	0.007

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COASTING VERSUS SINGLE DOSE GNnRH ANTAGONIST FOR THE PREVENTION OF OVARIAN HYPERSTIMULATION SYNDROME. C. Gulerman, N. Yilmaz, A. Sargin, A. Turkkani, E. Saikaya, O. Yenicesu. ZTB Women's Health Hospital, Ankara, Altindag, Turkey.

OBJECTIVE: The purpose of this study was to compare the use of single dose gonadotropin releasing hormone (GnRH) antagonist (0.25 mg) versus coasting for the prevention of severe ovarian hyperstimulation syndrome (OHSS) in patients with high risk undergoing invitro fertilization/intracytoplasmic sperm injection (IVF/ICSI).

DESIGN: Retrospective study.

MATERIALS AND METHODS: Patients undergoing IVF/ICSI with the long GnRH agonist protocol were identified as high responders based on the serum E2 level >3000 pg/ml and the multiple follicular development on the day of human chorionic gonadotropin (hCG) administration. Eighty six severely overstimulated IVF/ICSI patients with the long GnRH agonist protocol were enrolled the study and were consecutively assigned to either coasting group (Group A, n=42) and single dose GnRH antagonist (0.25 mg) treatment group (Group B, n=44). Patients treated with a single dose GnRH antagonist 0.25 mg on the day before hCG administration in group B. In group A, the duration of coasting prior to hCG administration was 2 days. Recombinant hCG 250 mcg was given to all patients when following a drop in serum E2 levels. Outcome measures included OHSS incidence rates and pregnancy rates in the two trial groups.

RESULTS: Estradiol levels were decreased significantly both of the groups. There was no difference in the incidence of moderate and severe OHSS between the groups. One of the 42 patients in the coasted group developed severe OHSS and three developed moderate OHSS. In the single dose GnRH antagonist group, one of the 44 developed severe OHSS and four developed moderate OHSS.There were no significant differences between the two groups comparing serum E2 levels on the day of hCG administration, the number of oocytes retrieved, fertilization and pregnancy rates.

CONCLUSION: The administration of single dose 0.25 mg GnRH antagonist appears to be an effective alternative to coasting for the prevention of OHSS in IVF patients who are at risk with high E2 levels in a GnRH long agonist protocol.

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HIGHER GOOD BLASTOCYST RATE BY USING AN INCUBATOR WITH A BUILT-IN A TIME-LAPSE EMBRYO IMAGE MONITORING SYSTEM. S. Watanabe,[a] M. Kamihata,[a] H. Morita,[a] A. Kuwahata,[a] M. Ochi,[a] T. Horiuchi.[b] [a]Ochi Yume Clinic, Nagoya, Aichi, Japan; [b]Graduate School of Comprehensive Scientific Research, Prefectural University of Hiroshima, Shobara, Hiroshima, Japan.

OBJECTIVE: A time-lapse embryo image monitoring system is an incubator with a built-in microscope and CCD camera. Since the embryo assessment can be done without taking out the embryo outside the incubator, it is possible to eliminate the risk of the stress by temperature change, pH change of culture medium and light exposure. We cultured embryos to the blastocyst using this system and compared the acquisition rate of good blastocyst with the rate of good blastocyst cultured in the same period by the conventional incubator.

DESIGN: Comparison study.

MATERIALS AND METHODS: We examined 109 embryos that normal fertilization was confirmed among the ova retrieved from 38 cycles (average age 37.6) that were extracted at random from the ova retrieval cycles performed from January to April, 2012. The embryos performed IVF were placed and cultured in the EmbryoScope(Unisense Fertilitech, Denmark) (ES), a time-lapse embryo monitoring system after 4 hours insemination. The embryos performed ICSI were placed and cultured in the ES immediately after ICSI. All the embryos were cultured for a maximum of seven days to reach blastocyst. The embryos were taken out of the ES 3 times at the time of the culture medium exchange. On the other hand, with the embryos that were cultured in the conventional type incubator, they were taken out of the incubator 17 times at the maximum for the embryo assessment, the culture medium exchange. The culture condition of the ES and the conventional incubator was at 37 °, 6%CO_2 and 5%O_2. The ICM formed blastocyst with not less than 160 micrometer of blastocoele was defined as a good blastocyst.