and 3 x Zand-air 100C units were used as air filtration. Chi square and student's t-tests were used as appropriate. There were no lab protocol changes during the study period, besides the in-duct air system.

RESULTS: 289 ART cycles were analyzed, 163 cycles pre and 126 cycles post in-duct air filtration installation. There were no differences between the two groups in the mean age of the patient, the number of oocytes retrieved, percentage of mature oocytes per patient, number of fertilized oocytes, or number of embryos transferred. However, significant increases were seen in the number of positive pregnancies, ongoing pregnancy rate, and viable blastocyst development rates. Air quality VOC testing demonstrated improved air quality after the installation of the in-duct air system (0.0 ppm) as compared with previous VOC readings prior to installation (0.3 ppm).

	Freestanding air filtration units alone	In-duct air filtration units	p value
Mean age of patient (years)	30.5	30.5	
Number of patients (n)	163	126	
Mean no. eggs retrieved	12.6	13.3	p=0.3231
Mean no. mature eggs	8.77	9.77	p=0.0583
Mean no. fertilized eggs	7.28	7.67	p=0.4128
Mean no. embryos transferred	1.88	1.79	p=0.0749
Mean no. viable blastocysts	1.75	3.50	p=0.0001
First bhCG (%)	47.2%	63.5%	p=0.0059
Clinical pregnancy rate (%)(gestational sac)	45.4%	55.6%	p=0.0868
Ongoing pregnancy rate (%) (fetal heart tones)	34.5%	55.6%	p=0.0003

CONCLUSIONS: Air quality in the IVF laboratory has been shown to have an impact on embryo development and resultant pregnancy outcomes. In an urban, multi-office, multiple story building, air quality is often difficult to control. The results of this study show that even multiple types and numbers of freestanding air filtration units may not be enough to create an ideal air quality environment within the IVF laboratory. The observations seen in this study suggest that the installation of an in-duct, positive pressure air filtration system does increase viable blastocyst development and pregnancy rates.

P-616 Wednesday, October 21, 2015

PREDICTING BLASTOCYST FORMATION RATE: AN AUTOMATIC CELL TRACKING SYSTEM AIDS IN THE SELECTION AMONG GOOD MORPHOLOGY EMBRYOS. N. Basile,[a] I. Cabanes,[a] M. Testillano,[a] D. Cernuda,[a] J. A. Garcia-Velasco,[a] M. Meseguer.[b] [a]IVI, Madrid, Spain; [b]Clinical Embryology, Valencia, Spain.

OBJECTIVE: To quantify, by multivariable analysis, the blastocyst formation rate according to the three predictive categories provided by Eeva (Early Embryo Viability Assessment).

DESIGN: Retrospective cohort study.

MATERIALS AND METHODS: Patients undergoing IVF cycles using their own or donated oocytes. Embryos were cultured in standard incubators including multiple Eeva systems. The Eeva test utilizes an automatic cell tracking software to classify embryos into three categories (HIGH-MEDIUM-LOW) according to their probability of becoming a blastocyst. For that aim the system relies on an algorithm based on the variables P2 = t3-t2 (time to 3 cell - time to 2 cell) and P3 = t4-t3 (time to 4 cell - time to 3 cell). In order to quantify the blastocyst formation rate according to the Eeva categories, a logistic regression analysis was performed taking in consideration possible confounding factors: embryo morphology according to ASEBIR (Spanish Association of Biologists; A-B-C-D), source of oocytes (own or donated), and number of oocytes.

RESULTS: A total of 494 patients generated 3596 embryos. The overall blastocyst formation rate was 59.3 % (1347/2269). When categorizing according to Eeva, we found significant differences in the overall blastocyst formation rate between LOW vs. MEDIUM (p< 0.001, OR= 1.964 CI95% 1.550-2.489) and LOW vs. HIGH (p< 0.001, OR= 3.743 CI95% 2.724-5.143). Development to "optimal" blastocyst was also analyzed with significant differences between LOW vs. MEDIUM (p< 0.001, OR= 1.634 CI95% 1.248-2.140) and LOW vs. HIGH (p< 0.001, OR= 3.053 CI95% 2.295-4.061). The only confounding factor presenting a significant effect was embryo morphology according to ASEBIR. The correlation between Eeva categories and blastocyst formation rate differs between good quality embryos (A-B) and poor quality embryos (C-D). Taking this in consideration, we still found significant differences between LOW vs. MEDIUM (p= 0.001, OR= 1.554 CI95% 1.207-1.999) and LOW vs. HIGH (p< 0.001, OR= 2.505 CI95% 1.792-3.502) for the overall blastocyst formation rate but correlation was reduced in 21% and 33% respectively. For "optimal" blastocyst formation rate, no significant differences were observed between LOW vs. MEDIUM (p= 0.110, OR= 1.263 CI95% 0.948-1.682) but we did observe significant differences between LOW vs. HIGH (p< 0.001, OR= 1.950 CI95% 1.437-2.647). Once again correlation was reduced in 23% and 36% respectively.

CONCLUSIONS: Eeva categories are strongly correlated with blastocyst formation rates and the prediction is significantly affected by day 3 embryo morphology. Therefore the best strategy, among good quality embryos, is the combination of both: morphology and morphokinetics.

P-617 Wednesday, October 21, 2015

EFFECT OF ARTIFICIAL OOCYTE ACTIVATION IN INTRACYTOPLASMIC SPERM INJECTION USING TESTICULAR SPERMATOZOA ON SIBLING OOCYTES. C. Takahashi, S. Mizuta, R. Nishiyama, K. Yamaguchi, K. Kitaya, H. Matsubayashi, T. Ishikawa. Reproduction Clinic Osaka, Osaka, Japan.

OBJECTIVE: Artificial oocyte activation (AOA) has been proposed as a suitable means to overcome the problem of failed or impaired fertilization after intracytoplasmic sperm injection (ICSI). To analyze with calcium ionophore after ICSI using testicular spermatozoa improves fertilization, embryonic development and pregnancy outcome in patients with obstructive azoospermia (OA) or non-obstructive azoospermia (NOA).

DESIGN: Prospective clinical analysis on sibling oocytes.

MATERIALS AND METHODS: This prospective study was performed between October 2013 and April 2015. All patients involved gave written consent, and institutional review board approval was granted. This study includes 22 OA and 47 NOA couples. We excluded the couples using only immotile spermatozoa for ICSI. Retrieved oocytes were incubated in culture medium (Universal IVF Medium: UIM) for 2 hours at 37C and 6% CO_2 and were underwent ICSI with motile testicular spermatozoa. When eight or more metaphase M (MII) oocytes were available, AOA was performed on half of the sibling MII oocytes. After ICSI, oocytes were incubated in UIM for 30 minutes, and exposed to 10μM of calcium ionophore A23187 for 15 minutes. The oocytes were then washed and placed in UIM. Two pronuclei (2PN) oocytes, blastocysts development, good-quality blastocysts, biochemical pregnancies, and clinical pregnancies rates were compared between two groups.

RESULTS: In terms of OA couples, there were no significant difference in 2PN oocytes, blastocysts development, and good-quality blastocysts rates (73.0%, 56.1%, and 47.8% with AOA and 66.0%, 41.2%, and 45.7% without AOA, respectively). For NOA couples, 2PN oocytes with AOA (74.0%) was significantly higher than those without AOA (61.2%). Blastocysts development, and good-quality blastocysts rates for NOA couples were 53.8% and 38.4% with AOA and 56.7% and 40.5% without AOA, respectively (no significant differences).

CONCLUSIONS: AOA with calcium ionophore showed favorable effect on fertilization rate in patients with NOA but OA. The sperm source was strongly affect the fertility potential or clinical outcomes. Severe male factor infertility, especially NOA, could be an indication for application of AOA.

P-618 Wednesday, October 21, 2015

AN EVALUATION OF CONTINUOUS HUMAN EMBRYO CULTURE USING THE WOW DISH. H. Watanabe, N. Fukunaga, K. Nakayama, M. Shimomura, H. Tsuji, H. Kitasaka, F. Tamura, Y. Konuma, M. Kojima, Y. Asada. Asada Ladies Clinic Medical Corporation, Nagoya, Japan.

OBJECTIVE: The WOW dish (LinKIDTMculture dish,DNP) 25 microwells that allows group culture under a single drop of medium. Through its design it is possible to manage embryos separately whilst in group culture. There are several reports (SUGIMURA et al, 2013) suggesting that the WOW dish improved bovine embryo culture results. Therefore, we investigated whether the WOW dish is suitable for continuous human embryo culture without exchange of culture medium.

DESIGN: Retrospective study.

MATERIALS AND METHODS: The study consisted of three experimental groups. "15ul drop culture" group (control) was the standard embryo culture method with exchange from single medium to single medium at Day3