mature oocytes, and 16.4% lower in the response group with only 1-5 mature oocytes, as indicated by the regression coefficients for absolute rate differences adjusted for age of -4.3% (95% CI, -6.8% to -1.8; P = 0.001) and -16.4% (95% CI, -18.9% to -13.9%; P < 0.001), respectively.

The ectopic pregnancy rate did not correlate with the age of the patient (P = 0.33). At any given age, the ectopic pregnancy rate was approximately 1.9%. Preclinical abortion and miscarriage rates, as well as overall first trimester pregnancy loss rate, remained more or less constant until the age of 34, but increased steadily from the age of 35 onwards. On average, preclinical abortion, miscarriage, and overall first trimester pregnancy loss rates were 8.5%, 6.8%, and 16.9%, respectively, until the age of 37. In the 38-40 years group, preclinical abortion, miscarriage, and overall first trimester pregnancy loss rates increased by 5.3% (9.9 to 9.7%; P = 0.021), 9.8% (5.6 to 14.0%; P < 0.001), and 16.9% (12.7 to 21.0%; P < 0.001), respectively. In the 41-43 years group, these increases were even higher: 7.8% (3.4 to 12.2%; P = 0.002), 15.0% (10.7 to 19.2%; P < 0.001), and 22.9% (18.7 to 27.1%; P < 0.001), respectively.

Conclusions: These large prospectively collected ICSI outcome data enable the assessment of treatment outcome expressed as live birth rate and first trimester pregnancy loss per cycle. This study demonstrates the strong correlation between ovarian response and the live birth rate after ICSI. The risk of first trimester pregnancy loss significantly increases after the age of 38 years with an even more pronounced increase after the age of 40. The risk of ectopic pregnancy is independent of age, with an average of 1.9% per cycle.

O-125 Association between ultrasound findings and serum levels of VEGF in ampullary pregnancy
F.R. Cabral1, P.P. Pereira1, R.P. Francisco1, M. Zugaib1
1University of Sao Paulo - Faculty of Medicine, Obstetrics and Gynecology, Sao Paulo, Brazil

Introduction: Ectopic pregnancy (EP) is still a major cause of maternal morbidity and mortality. Vascular endothelial growth factor (VEGF) participates in the processes of implantation and placentaion. The implantation environment in the ovuid is very different from those of endometrium, and the production and secretion of VEGF seem to be elevated in EP. The objective of the study was to assess the association between ultrasound images and serum concentrations of VEGF in tubal pregnancies.

Methods: Women with ampullary pregnancy undergoing salpingectomy were enrolled into the study. Only women with a finding of either an embryo with cardiac activity or a tubal ring on transvaginal sonography (TVS) (either a para-ovarian formation similar to a gestational sac not containing a viable embryo - an anechoic structure surrounded by a peripheral hyperechogenic halo - an empty ovarian formation similar to a gestational sac not containing a viable embryo - an anechoic structure surrounded by a peripheral hyperechogenic halo - an empty tubal ring on transvaginal sonography (TVS) (either a para-ovarian formation similar to a gestational sac not containing a viable embryo - an anechoic structure surrounded by a peripheral hyperechogenic halo - an empty ovarian formation similar to a gestational sac not containing a viable embryo - an anechoic structure surrounded by a peripheral hyperechogenic halo) were included in the analysis. The treatment choice (salpingectomy) was based on the clinical state, ultrasound examination and β-human chorionic gonadotropin (β-hCG) level of the patients, and on their future reproductive intent. Other inclusion criteria were: singleton pregnancies, spontaneous conception, measurement of serum VEGF, β-hCG and progesterone on the day of surgery. Cases in which there was no agreement regarding the location of the tubal pregnancy upon surgical description and histologic analysis were excluded. Assessment of gestational age was made based on the last menstrual day of surgery. Cases in which there was no agreement regarding the location of the tubal pregnancy upon surgical description and histologic analysis were excluded. Assessment of gestational age was made based on the last menstrual period. Multiple logistic regression was performed to verify the association between VEGF and the presence of heart beating, controlling for maternal age, gestational age, progesterone and β-hCG serum levels, parity, number of gestations, previous ectopic pregnancies and abortions. For addition of the independent variables to the model, hierarchical forward-stepwise selection was performed based on the likelihood-ratio test. Student t-test was used for comparisons between means of normally distributed data and the Mann-Whitney U test for non parametric data. All tests were two tailed: a p value < 0.05 was considered to indicate statistical significance. Statistical analyses were performed on a personal computer with the statistical package SPSS for Windows (Version 13.0).

Results: 44 patients successfully completed the protocol. They comprised 19 ectopic pregnancies that fetal heart beats were present and 25 cases in which tubal ring was found. There were no statistical differences between the groups regarding maternal age, number of pregnancies, gestational age, β-hCG, parity, number of abortions or previous ectopic pregnancies. Higher serum levels of VEGF were found in the group that fetal heart beats were present (median 352.3 pg/ml SD 132.2) compared with the tubal ring group (median 157.6 pg/ml SD 199.0 - p = 0.001). Fetal heart beats cases presented more previous gestations (mean 3.4 SD 1.6 - p = 0.044) and serum levels of progesterone was significantly lower in this group (mean 5.4 pg/ml - SD 3.0) when compared to the other (9.3 pg/ml - SD 6.0 - p = 0.015). In the multivariate analysis, this association remained strong regardless of the maternal age, number of pregnancies and serum progesterone.

Conclusion: Inampullary pregnancy, higher serum levels of VEGF is associated with the finding on TVS of an embryo with cardiac activity. Probably, higher production of VEGF creates better development conditions to the ectopic embryo.

O-126 Is there any relation between serum hCG level in viable pregnancy and quality of blastocyst transferred in IVF-ET?
R. Horiiuchi1, S. Miyaji2, A. Haruki3, A. Fukuda1, Y. Morimoto1
1IVF Osaka Clinic, The Centre for Reproductive Medicine and Infertility, Higashi-Osaka, Japan
2IVF Namba Clinic, The Centre for Reproductive Medicine and Infertility, Osaka, Japan

Objective: Serum level of hCG rises after a certain period of time from embryo transfer and hCG level in viable pregnancy increases steadily 1.5 times a day after implantation. However, the influence of the quality of blastocyst on serum level of hCG after implantation has not been investigated. In the present study, we conducted to determine if the quality and stages of blastocyst (BL) such as overall blastocyst grade, grades of inner cell mass (ICM) and trophoeotdf wecdrom (ECM), influenced the level of hCG in viable pregnancy 12 days after single blastocyst transfer (SBT) in both fresh and frozen embryo transfer.

Materials and Methods: Retrospective investigation was performed on 280 pregnant patients achieved by SBT between 2006 and 2010. Sixty nine pregnancies were from fresh transfers and 211 were from frozen-thawed transfers. All pregnancies were singleton and confirmed to be ongoing until 12 gestational weeks. GnRH agonist long stimulation protocol was used for fresh cycles and only Day5 BLs were transferred. Day6 BLs were not transferred and vitrified for subsequent frozen-thawed transfer. Hormone supplemented cycle was used for frozen-thawed transfer and single BL, either Day5 or Day6 BL was transferred. Plasma level of hCG was measured 12days after transfer to determine pregnancy. The quality of BLs was assessed by Gardner’s classification. Early blastocyst was defined as the non-expanded blastocyst earlier than BL3 in Gardner’s class. The plasma level of hCG values were measured by Cobas® (Rosch Diagnostics, Tokyo). We defined mean plasma hCG levels of ongoing pregnancy as hCG levels in viable pregnancies. Relation between various findings of blastocyst and hCG values in viable pregnancies were assessed statistically by either t-test or Mann-Whitney U test.

Results: There were no significant differences in serum hCG levels in viable pregnancies between fresh and frozen-thawed cycles (629.3 IU/L vs. 718.3 IU/L, P = 0.19). Serum hCG levels of early blastocyst (N = 28) in viable pregnancies were significantly lower than that of expanded blastocyst (N = 252) (416.0 IU/L vs.727.5 IU/L, P < 0.01). However, serum hCG level in viable pregnancy in grade A of ICM (N = 125) was similar to that in grade B (N = 123) (734.8 IU/L vs. 729.0 IU/L). The grade of trophoeotdf wecdrom did not influence the level of hCG in viable pregnancy. There were no differences of hCG levels in viable pregnancies in frozen cycles between Day5 (N = 177) and Day6 BL (N = 19) (739.7 IU/L vs. 747.9 IU/L).

Conclusions: Not only grade of BL such as overall, ICM and ECM grades, but also Day5 or Day6 BL, did not influenced the level of serum hCG in viable pregnancy 12 days after transfer. On the other hand, the level of serum hCG in viable pregnancy from early BL was lower than expanded BL. The present study clarified that early blastocyst implant about one day later than expanded blastocyst.
Introduction: In France, stringent laws mandate that oocyte donors are unpaid and fertile (≥ 1 child). As these rigid rules impede with the recruitment of donors, we accepted that women who wore progestin-delivering IUDs (Mirena®) and implants (Implanon®) donated their oocytes, starting in 1/2008. This was based on a preliminary report in 8 women indicating that this measure did not alter outcome (Hum Reprod 1997;12:491-5). We now expand this knowledge by reporting on 34 embryo transfers (ET) that emanated from oocytes donated by women wearing a progestin-delivering IUD or implant.

Material and Methods: We compared donor-egg ART outcome from progestin-exposed (group A) and not-exposed donors (group B) treated in our center between 1/2008-12/2010. In group A, embryos obtained from donors having a Mirena or Implanon in place during COH (n = 15) were transferred fresh in 34 phenotypically-matched recipients. In group B, embryos obtained from control donors (n = 111) were transferred in 221 recipients. In both groups – donors and recipients – COH regimens were otherwise similar.

Results: Review of demographic data indicated that the 2 groups were similar notably for age (31.3 and 31.5, in groups A and B, respectively). In the 15 donors of group A, COH needed 1659 IU of gonadotropin, lasted 11.7 days and provided 9.6 and 8.5 total and mature oocytes and 5.7 cleaving embryos. This was not different (NS) from findings made in the 111 donors of group B. In the latter, COH needed 2476 IU of gonadotropin, lasted 11.3 days, and provided 8.3 and 7.9 total and mature oocytes and 5.6 cleaving embryos.

As routinely done in our center, donated oocytes were shared by several phenotypically-matched recipients in an effort to optimize outcome on per-donor basis (FS 2011, in-press). Hence, 34 recipients were attributed oocytes from donors exposed to progestins (group A). In these 34 women, clinical pregnancy (cPR) and embryo implantation rates (IR) were 32.3% and 22%, respectively. While not statistically different, this was slightly lower (approximately -10%), as compared to findings made in 221 recipients receiving oocytes from control donors (group B). In the latter, cPR and IR were 41.2% and 29%, respectively.

Conclusion: Our data confirm and expand our knowledge of donor-egg ART using oocytes obtained from women wearing a progestin-delivering IUD or subcutaneous implant. As reported before, our data on larger numbers showed that progestin released from IUD or implant did not alter the ovarian response to COH, which adds robustness to the early information.

There was however a negative not-significant trend toward lower cPR and IR following transfers of embryos obtained from oocytes retrieved from women exposed to progestin. The observed difference being of ≤ 10%, we reckon that > 150 inclusions would be needed, assuming that all else remains constant, to determine that our findings truly result from an effect of the progestin.

Considering that most of our unpaid donors would not have consented to remove their IUD or implant for donating oocytes, the ensuing pregnancies (11/15 donors) would have been simply lost. In light of the lack of sure difference and the great scarcity of donors in France, we elected to continue to accept oocyte donors who keep their Mirena and Implanon in place during donor-egg ART. Our data may be of help too when ‘stat-ART’ is considered in cancer patients wearing a Mirena or Implanon. Further studies are needed however to determine whether the moderate difference observed in cPR and IR is a true one.
in 86% of cases, drug addiction in 11%, omen-transfusin in 3%. 14 couples under-went suprovolution and IUI. The mean age (± SD) was 40 ± 4 for male and 38 ± 3 for female. The mean number of treatments per couple was three. The clinical pregnancy for IUI was 15%. The mean of spermatozoa used after swim-up was 5 million ± 5/ml. A multivariate analysis proved that maternal age was the only significant and independent predictor of IUI success. 21 couples were treated by second-level ART procedures (mean number of cycles per couple 1.8). The mean age (± SD) was 40 (± 4) for male and 36 (± 4) for female partners. The clinical pregnancy for cycles was 20%.

Seroconversion tests for the partner were programmed 3 and 6 months after finishing every treatment. At date, none of them has been seroconverted for HCV.

Conclusion: In the present series, horizontal or vertical transmission of HCV infection did not occur in any of the 35 couples who underwent 38 cycles of ICST and 42 AIH. If it is real that sexual transmission of HCV is low, it is real that in subfertile or infertile couples it should be used sperm washing to treat HCV positive semen. According to these findings we suggest that sperm wash- ing should be performed for each semen sample of HCV patients before ART, but it is not necessary to performed nested PCR to detect HCV RNA in final pellet after sperm washing because of the demonstrated absence of the virus in these semen fraction.

O-130 Evidence of impaired endometrial receptivity following controlled ovarian stimulation: a prospective randomized trial in normal responders
B.S. Shaprio1, S.T. Daneshmand1, F.C. Garner1, M. Aguirre1, C. Hudson1, S. Thomas1
1Fertility Center of Las Vegas, Reproductive Endocrinology, Las Vegas, U.S.A.

Introduction: Controlled ovarian stimulation (COS) alters endometrial development, potentially impairing endometrial receptivity. In order to evaluate potential endometrial impairment, the present study compared the clinical pregnancy rate per transfer in autologous in vitro fertilization (IVF) cycles that were randomized to either fresh blastocyst transfer (fresh group) or else the transfer of blastocysts derived from frozen-thawed biproclonal oocytes (cryopreservation group). Post-thaw extended culture has been previously shown to produce blastocysts of quality equivalent to fresh blastocysts. The transfer of equiva- lent blastocysts into different uterine environments allows direct comparison of those environments.

Materials and Methods: This prospective randomized trial was restricted to first-time IVF patients < 41 years old, with < 15 antral follicles, and baseline levels of follicle stimulating hormone (FSH) < 10 IU/l. Genetic screening of embryos was an exclusion criterion. Patients underwent conventional COS with both urinary and recombinant gonadotropins under an antagonist protocol. Randomization immediately followed oocyte collection. Patients randomized to the fresh group had all of their embryos cultured to the blastocyst stage before transfer. Patients randomized to the cryopreservation group had their entire cohorts frozen at the biproclonal stage, and their entire cohorts cultured after thaw to the blastocyst stage before transfer. All cryopreservation employed only conventional slow freezing. In both groups, the morphologically best 1-2 blastocysts in each cohort were selected for transfer. Clinical pregnancy and implantation were defined based on sonographic observation of fetal heart motion. The study design specified 411 total subjects would be needed to discern a 15% difference in clinical pregnancy rates with 80% power, with one interim test after 100 blastocyst transfers. Institutional review board approval was ob-tained prior to study initiation and an independent monitor reviewed all study records.

Results: A total of 103 subjects completed blastocyst transfers before the in-terim test. Clinical pregnancy rates per transfer were 54.7% (29/53) in the fresh group and 84.0% (42/50) in the cryopreservation group (P = 0.0013). This P-value was less than the specified significance level (0.03) for the interim test, and the study was therefore halted. The relative risk of implantation failure (failure to achieve clinical pregnancy) in the fresh group was 2.83 (95% CI: 1.40 to 5.70) relative to the cryopreservation group and the attributable risk per-cent was 65%. The implantation rate in the fresh group was 38.9% (37/95) and 70.8% (63/89) in the cryopreservation group (P < 0.0001). The two groups did not differ significantly in age, baseline FSH level, infertility diagnoses, body mass index, antral follicle count, duration of stimulation, number of collected oocytes, endometrial thickness, or number of blastocysts transferred.

Conclusions: These results support a conclusion of impaired endometrial receptivity following conventional COS for IVF. The 65% attributable risk suggests the majority of implantation failures in the fresh group were due to impaired endometrial receptivity following COS. The success rates in the two groups were typical of previous reports of their respective methods (fresh blas-tocyst transfer and blastocyst transfer following post-thaw extended culture). Furthermore, the high implantation rate in the cryopreservation group suggests an effective method for elective single embryo transfer. Additional research is needed to determine if embryo cohort cryopreservation is superior to fresh transfer as a primary therapy, when cancellations and cumulative success rates are also considered.

O-131 Therapeutic efficiency of atosiban, an oxytocin receptor antagonist in the treatment of experimental endometriosis
Y. Simsek1, O. Celik1, E. Yilmaz1, A. Karaer1, O. Koc1, N.E. Aydin1
1Inonu University Medical Faculty, Obstetrics and Gynecology, Malatya, Turkey
2Abant Izzet Baysal University Medical Faculty, Obstetrics and Gynecology, Bolu, Turkey
3Inonu University Medical Faculty, Pathology, Malatya, Turkey

Introduction: Increased expression of oxytocin mRNA secondary to the local estrogenic activity has been demonstrated in endometriotic lesions. Oxytocin can lead to production of PGE2, which is well known stimulator of aromatase enzyme complex. The current study aimed to investigate the potential therapeu-tic efficiency of atosiban, an oxytocin receptor antagonist in a rat endometriosis model.

Material and Methods: This study was carried out in the Experimental Research Laboratory of the Inonu University Faculty of Medicine. Before trans-plantation, all animals were hormonally synchronized in their 4-day estrus phase to exclude the differences in the steroid synthesis, cell adhesion and growth, and thus, endometriosis development between the individual animals owing to hormonal variations. Endometriosis was induced in 28 female ani-mals surgically by using the method described by Vernon and Wilson during estrus. Four weeks after this procedure, relaparotomy was performed. The vi-ability and dimensions of the endometriosis foci were recorded. The vesicles at the sutures region were observed and the rats were graded according to aver-age vesicle diameter (D) as: Grade 1 (for cases in which the implant had disap-peared or, if it was visible, never became a cyst), Grade 2 (D < 2 mm), Grade 3 (2 mm < D < 4.5 mm) or Grade 4 (D > 4.5 mm). Rats were randomly divided into three groups and treatment was started. In the first group (n = 7), daily dose of 0.2 ml 0.9% NaCl was injected intraperitoneally (i.p) (control cases). In the second group (n = 7), 0.1 mg/day i.p atosiban was administered. In the third group (n = 7), 1 mg/day diltiazem was given by i.p route. For the sham group (n = 7), 4-0 nylon sutures, with or without fat tissues, were attached to the peritoneum except the autotransplantation of endometriotic implants. At the end of 3-week drug administration, laparotomy was performed to all rats. The viability of the endometriosis foci were recorded and all the rats were sacrificed. The endometrial implants were then excised and processed for histological and immunohistochemical studies. Main outcome measures were area of endometriotic implants, adhesion scores and immunohistochemi-cal analysis.

Results: It was observed that 85% of the implanted rats developed vesicles in the suture zone. The rats that somehow did not develop any vesicle were assigned as Grade 1 (10%). In 25% of the subjects the diameter of vesicles was < 2 mm (Grade 2), in 30%, the vesicles diameter were between 2 and 4.5 mm (Grade 3) and in 35%, the vesicles diameter were > 4.5 mm (Grade 4). After the treatment with atosiban we did not find any Grade 3 vesicles whereas the percentage of Grade 4 vesicles decreased significantly. After the treatment with diltiazem, the percentage of Grade 3 and 4 vesicles increased, whereas the percentage of Grade 2 vesicles decreased. The post-treatment implant volumes were increased in the control group. In the atosiban group, proleifering cell nuclear antigen (PCNA) expression levels were significantly reduced compared with the diltiazem and control groups.

Conclusions: In a rat endometriosis model, atosiban, an agent used for the first time for the medical treatment of endometriosis has showed significant thera-peutic efficiency than that of control cases. Blockage of oxytocin receptors by atosiban in patients with the disease deserves attention as an alternative agent in the medical treatment of endometriosis in human.
O-132 Impact of cabergoline treatment on angiogenesis and apoptosis in endometrial stromal cells

S. Rodríguez1, D. Agudo2, A. Pacheco3, E. García-Cerrudo3, J. Schneider1, J.A. Garcia-Velasco4
1Rey Juan Carlos University, Obstetrics and Gynecology, Madrid, Spain
2IVI-Madrid, IVF Laboratory, Madrid, Spain
3IVI-Madrid, Andrology, Madrid, Spain
4IVI-Madrid & Rey Juan Carlos University, Obstetrics and Gynecology, Madrid, Spain

Introduction: Targeting the angiogenic process is a new therapeutic strategy for endometriosis that is currently being investigated. Published evidence in murine models supports the use of dopamine agonists to reduce angiogenesis and endometriotic lesions by binding to dopamine agonist receptor. Further research on proangiogenic and angiogenic factors involved in this disease is therefore needed. The aim of our study was to investigate the effect of cabergoline—a dopamine agonist with antiangiogenic properties—on endometrial stromal cells.

Material and Methods: Human endometrial tissue was obtained from reproductive age healthy volunteers (n = 10). Primary cultures of stromal cells were obtained and cultured in absence (control) or presence of cabergoline at 10 μM, 1 μM and 0.1 μM, and evaluated at 24, 48 and 72 hours. Concentrations of soluble VEGF-A and VEGF-R2 and NFK-β gene expression level in endometrial cells were measured using quantitative real time PCR. The data was analyzed using SPSS statistical software. Significance was set at p ≤ 0.05.

Results: Cabergoline induced a significant reduction in VEGF-A protein secretion in a time- and dose-dependent fashion (there were significant differences for the all times analyzed when compared control vs. cabergoline 10 μM and control vs. cabergoline 1 μM, p ≤ 0.05). Similarly, VEGF2 gene expression was markedly reduced by cabergoline in vitro treatment at high doses for the all times analyzed (cabergoline 10 μM vs. control, cabergoline 1 μM and cabergoline 0.1 μM, p ≤ 0.001). Interestingly, when caspase-3 was evaluated, we did find a descent in both protein and gene-expression after 24h and 48h, respectively, in cabergoline treated endometrial cells when compared with controls, in a dose-dependent fashion (control vs. cabergoline 10 μM, cabergoline 1 μM and cabergoline 0.1 μM, p ≤ 0.001).

Conclusions: Cabergoline in vitro treatment of endometrial stromal cells induces a time and dose-dependent effect on angiogenesis and apoptosis markers. These findings support further testing of dopamine agonists as a novel therapeutic approach to endometriosis.

O-133 Aneuploid blastomeres may undergo a process of genetic normalization resulting in euploid blastocytes

1Johns Hopkins Medical Institutions, Gynecology and Obstetrics, Baltimore, USA
2Beth Israel Deaconess Medical Center at Harvard Medical School, Obstetrics and Gynecology, Boston MA, USA
3Center for Preimplantation Genetics LabCorp and Johns Hopkins Medical Institutions, Genetic, Rockville MD, USA
4La Jolla IVF, Infertility, La Jolla Ca, USA
5Arizona Center for Fertility Studies, Infertility, Phoenix AZ, USA
6Brigham and Women’s Hospital at Harvard Medical School, Obstetrics and Gynecology, Boston MA, USA
7Shady Grove Fertility Reproductive Science Center, Infertility, Rockville MD, USA
8Center for Preimplantation Genetics LabCorp and Johns Hopkins Medical Institutions, Gynecology and Obstetrics, Rockville and Baltimore MD, USA

Introduction: Early embryogenesis involves a series of dynamic processes, many of which are currently not well described or understood. We compared dense Single Nucleotide Polymorphism (SNP) microarrays for preimplantation genetic screening (PGS) on day-3 blastomeres, inner cell mass (ICM) cells and trophoderm (TE) cells from corresponding blastocysts to determine if genetic normalization occurred during early embryologic development.

Materials and Method: Patients underwent standard in vitro fertilization (IVF) and PGS secondary to repeat pregnancy loss (RPL) or unexplained infertility. IRB approval was obtained. All couples agreed to donate their abnormal embryos to research with signed informed consent.

All cleaving embryos were biopsied on Day-3. Single blastomeres underwent a modified multiple displacement amplification protocol followed by whole genome amplification. These samples then underwent 23-chromosome SNP microarray analysis using the Illumina Infinium high-density HumanCytoSNP-12 DNA analysis beadchips with Illumina iScan BeadArray reader. We detect mosaicism at approximate levels of 5-10%. Clinical data was compared to an established embryonic cell normalized data set. Our microarray protocol validation has been published previously.

Following Day-3 biopsy, all embryos remained in a standard commercially available media until Day-5 post oocyte fertilization. Day-5 blastocysts with euploid Day-3 results either underwent uterine transfer or were cryopreserved. Day-5 blastocysts grown from embryos with aneuploid Day-3 results underwent surgery to separate the ICM from the TE. An average of 100 TE cells and a range of 40 ICM cells to the entire ICM cell population were obtained from each embryo and immunocytochemistry was performed on an aliquot of cells from each tube using anti-oct3/4 to confirm the ICM and anti-cdx2 to identify the TE cells. DNA amplification and microarray analyses were then performed as described above.

All coded and de-identified samples were kept by an individual not responsible for molecular karyotype interpretation. Karyotypic interpretations were performed four separate times with the reader blinded to the identity of each sample and then repeated to confirm diagnostic accuracy. The samples were then de-identified and data analyzed.

Results: Twelve patients were enrolled and 126 embryos were subjected to Day-3 biopsy for clinically indicated PGS. Of these, 62 (49.2%) showed euploid karyotypes with 43 (69.4%) of these developing to the blastocyst stage. 64 (50.8%) showed aneuploid Day-3 karyotypes with only 25 (39.1%) of these developing into blastocysts. Evaluation of the blastocyst from these 25 Day-5 embryos revealed that 68% (17/25) [95% CI: 48-83%] possessed a euploid ICM and 76% (19/25) [95% CI: 56-89%] possessed a euploid TE with 64% (16/25) [95% CI: 44-80%] having both a euploid ICM and TE. No mosaicism was observed in any of the ICM or TE samples evaluated [95% CI: 0-16% for each sample]. However, SNP microarray analysis is unable to detect mosaicism at approximate levels of less than 5-10%. Furthermore, within each embryo, all of the Day-5 molecular karyotypes were discordant with the molecular karyotypes obtained at Day-3, including embryos that remained aneuploid. At Day-5, the ICM and TE, within each embryo, were concordant in 84% (21/25) [95% CI: 44-80%]. In three of these four discordant embryos, the TE was euploid with an aneuploid ICM.

Conclusions: The genetic normalization observed in this study has significant implications in numerous scientific fields. Dissecting the mechanism underlying the normalization observed in this study in a stem cell system would be highly useful and may be applied to cell-based therapeutic approaches using stem cells. An understanding of such in vitro reparative mechanisms could further gene repair and stem cell transplant therapy. Furthermore, our findings could potentially impact management of patients undergoing infertility care by reassessing the disposition of abnormal Day-3 euploid embryos.

O-134 How does blastomere removal affect embryonic development? A time-lapse analysis

K. Kirkegaard1, J. Hindkaer1, H.J. Ingerslev1
1Aarhus University Hospital Skejby, Fertility Clinic/Center for Preimplantation Genetic Diagnosis, Aarhus, Denmark

Introduction: Preimplantation genetic diagnosis (PGD) is offered to couples whose potential offspring are at risk of an inherited single gene disease or structural chromosomal disorder. PGD requires embryonic DNA for establishing the diagnosis, which can be obtained by performing blastomere biopsy of the 6-10 cell embryo. It has been argued that blastomere removal does not affect