CONCLUSIONS: This data is meant to be used by others contemplating ESET in their clinics. ESET has conferred a number of beneficial aspects to our practice. For example, the application of less subjective embryo/blastocty grading has resulted in better selection for transfer. Also, the additional two days provides our clinical staff with more time to assess Ovarian Hyper-stimulation Syndrome risk – transfer on day 5 becomes clearly advisable or inadvisable if clinical symptoms do not resolve. The future challenge will be application of ESET more liberally and across a broader patient population.

Supported by: None.

P-668


OBJECTIVE: Maintaining temperature at optimal conditions for oocyte and embryo manipulation is a challenge faced by all in vitro Fertilization (IVF) centers. ET are performed in a multitude of rooms at our facility, one of which is connected to the Embryology Laboratory and others being as far away as 40 feet from the laboratory. It is our concern that a rapid decrease in temperature occurs when carrying the ET catheter to the distant rooms, which may adversely affect the cycle outcome. A catheter carrier was developed and utilized to assist in maintaining catheter temperature. The objective of this study was to determine the efficacy of this device.

DESIGN: A prospective, randomized study in a private ART center.

MATERIALS AND METHODS: A surgical grade stainless steel catheter carrying device measuring approximately 34.2 cm in length and 1 cm in diameter was developed for this study. Multiple identical carriers were available, and each was used for a single transfer, and then sterilized with an autoclave prior to reusing. Sterilized carriers were warmed to 37°C in a dry incubator. Wallace Sureview ET catheters were loaded with embryos according to our protocol, inserted into the carrier and delivered to the room in which the ET would occur. All fresh autologous and donor IVF cycles performed between 6/1/06 and 12/31/06 resulting in ET were included in this study. Those cycles with an even Laboratory ID number were placed in Group #2 (n = 277) in which no carrier device was utilized. Cycles with an odd Laboratory ID number were placed in Group #1 (n = 240) in which the catheter carrying device was utilized. Cycles with an odd Laboratory ID number were placed in Group #1 (n = 277) in which no carrier device was used. Clinical Pregnancy (CP) rates for each group were compared.

RESULTS: Table 1 illustrates the summary of our findings.

<table>
<thead>
<tr>
<th>Group (Carrier Used)</th>
<th>Number of Cycles (n)</th>
<th>Age (Mean ± SD)</th>
<th># Embryos ET (Mean ± SD)</th>
<th>CP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 (Carrier Used)</td>
<td>240</td>
<td>33.9 ± 5.46</td>
<td>3.1 ± 1.29</td>
<td>95 (39.6)*</td>
</tr>
<tr>
<td>Group 2 (No Carrier Used)</td>
<td>277</td>
<td>33.8 ± 5.28</td>
<td>2.8 ± 1.29</td>
<td>100 (36.1)*</td>
</tr>
</tbody>
</table>

Not statistically significant using Chi Squared test.

CONCLUSIONS: Utilization of the carrier did not affect cycle outcome as demonstrated by CP. At our facility, we continue to employ the carrier as a device to maintain temperature and securely carry the catheter to its destination.

Supported by: None.

P-669


OBJECTIVE: The assessment of cell division on Day 1 after IVF or ICSI (EC), has proven to be instrumental in both selecting embryos for transfer (ET) and as a prognostic factor for an ongoing pregnancy. At this time, we also observed abnormal or suboptimal nuclear and pronuclear (pn) development, not seen in subsequent daily examinations. The purpose of this study was to ascertain the prognostic value of these anomalies on the chance of a healthy pregnancy.

DESIGN: Prospective, non-randomised study.

MATERIALS AND METHODS: 1174 IVF/ICSI patients from our center (2005 – 2006) were included. All oocytes were evaluated Day 1 (morning) after follicular aspiration (FA) for fertilization and then later that day for EC (except for 345 patients – control). During this time, unusual zygote/embryo morphology was noted, such as asynchronous appearance or disappearance of pn(s) (opn → 1 or 2pn, 2pn → 1pn, multi-pn(s) (2pn → ≥3pn, opn → ≥3pn) and multinucleated blastomeres (MNB) in EC 2-cell embryos (ABN). The best embryos were selected for ET on Day 2 or 3 (±EC). Pregnancy was defined as a positive urinary test 15 days after FA and embryo development was monitored by transvaginal ultrasound at 4, 7 and 10 weeks following ET. Differences were analysed and values with P<.05 were considered significant. Select data are expressed as mean ± SD.

RESULTS: Four patient groups were analysed. Those with an embryo cohort + ≥1 EC embryo and ≥1 embryo with ≥10f the abnormalities mentioned (ABN) (Group 1, n = 140), those with ≥1 EC and no ABN embryos (Group 2, n = 343), those with no EC and no ABN (Group 3, n = 124) and those with no EC and ≥1 ABN embryo (Group 4, n = 362). Group 1 and 2 patients were the youngest (mean: 33.9 ± 4.2 y, P<.001). Embryos from Groups 1 and 2 had the best grade (1.84 ± .86, P<.01). On average, PR from Groups 1 and 2 were higher (45.7 and 44.0%, respectively), even compared to the control group (38.6%). Implantation rates (IR) were significantly lower in Groups 3 and 4 (20.2 and 14.1%) than in 1 and 2 (30.2 and 28.9%, P<.05). The same results were seen regarding IR + heart beat (HB) (Groups 3 and 4: 18.3 and 12.3% vs. 1 and 2: 26.2 and 24.4%, respectively, P<.05). On average, twinning rates were higher in Groups 1 and 2 (21.8 and 18.8%) than in Groups 3 and 4 (11.5 and 9.1%, respectively).

CONCLUSIONS: The presence of ABN in the cohort may have a negative prognostic value regarding IR and IR + HB. Surprisingly, this “effect” appears to be “neutralized” by the additional presence of ≥1 EC embryo in the cohort.

Supported by: None.

P-670


OBJECTIVE: To test the hypothesis that a blastocyst transfer is superior to a Day 3 embryo transfer (D3ET) in pregnancy outcome, while reducing multiple gestations.

DESIGN: A retrospective cohort study conducted at Wilford Hall Medical Center from July 1998 thru May 2006.

MATERIALS AND METHODS: Study patients underwent ART and met our inclusion criteria for DSET on D3 (≥6 total embryos, at least three 7 or 8 cell embryos with <10% fragmentation), and subsequently elected either a D3 or D5ET. Cycles were compared by day of transfer (D3 or D5), and stratified by patient age (<35 y and 35–41 y). The number of oocytes retrieved, embryos on D3, embryos transferred, pregnancy rate, implantation rate, twin and HOM (≥triplets) rate from each group were compared. Statistical analyses utilized student’s t-test or Fisher’s exact test, with Bonferroni considered significant.

RESULTS: Of the 274 patients who met our inclusion criteria, 153 underwent a D3ET and 121 a D5 ET. The D5 group had a significantly lower mean age (32 vs. 33) and number of embryos transferred (2.0 vs. 2.5), and a higher implantation rate (56% vs. 42%) than the D3 group. The D5 and D3 groups had similar clinical pregnancy rates (73% vs. 65%) and twin pregnancy rate (33% vs. 25%).

CONCLUSIONS: Patients opting for D5 should do so with a commitment towards single embryo transfer. Although blastocyst transfer resulted in fewer embryos transferred with improved clinical pregnancy rates, the expense was a higher twin pregnancy rate. Only a concerted effort toward day 5 single embryo transfer will test the overall effectiveness.

Supported by: None.
THE EFFECT OF ACUPUNCTURE IN ASSISTED REPRODUCTION TECHNIQUES. D. R. K. Teshima, C. Nunes, S. Chedd-grieco. Medicina Reproductiva, Clinica Chedidgrieco de Medicina Reproductiva, Sao Paulo, Brazil.

OBJECTIVE: The aim of this study was to evaluate the effects of acupuncture on embryo transfer by comparing the rates of clinical pregnancy.

DESIGN: Retrospective, interventional and longitudinal study.

MATERIALS AND METHODS: Study with a total of 111 cycles of patients who underwent assisted reproduction techniques: in vitro fertilization (IVF) or intracytoplasmic sperm injection (ICSI) from June/2005 to January/2007: 52 cycles with acupuncture and 59 cycles without acupuncture. Acupuncture was performed, in specific points of the body including the ear, immediately before and after the embryo transfer procedure and the needles were retained for 30 minutes per session. The embryo transfer was carried out under ultrasound guidance and luteal phase support was given by transvaginal progesterone administration (Utrogestan®) and intramuscular progesterone. Outcome measure was clinical pregnancy rate.

RESULTS: The clinical pregnancy rate per cycle was observed in 27 of 52 (51.9%) patients in the acupuncture group and 21 of 59 (35.6%) patients in the control group (P=0.083). The mean age was 36.1 ± 6.1 years in the control group and 36.4 ± 5.4 years in the acupuncture group (P=0.785). The number of embryos transferred was 3.3 ± 1.4 in the control group and 3.6 ± 1.4 in the acupuncture group (P=0.462). The technique of embryo transfer was 5 cycles of IVF and 54 cycles of ICSI in the control group and 5 cycles IVF and 47 cycles of ICSI in the acupuncture group (P=1.000). Both groups did not show statistics difference in the mean age, number of embryos transferred and the technique procedure.

CONCLUSIONS: Although there was a higher pregnancy rate in the acupuncture group, this difference was not statistically significant, probably because of the small number of patients in both group. Acupuncture seems to be an important coadjuvant in the treatment of infertility with IVF or ICSI, and further research is needed to demonstrate its precisely effect.

Supported by: None.

P-672

DAY 3 VS. DAY 5/DAY 6 EMBRYO TRANSFERS EFFECTS ON LIVE BIRTH, IMPLANTATION AND CANCELLATION RATES IN IVF-ET CASES WITH ≤3 Viable Embryos ON DAY 3 OF EMBRYO CULTURE: A TEN-YEAR RETROSPECTIVE ANALYSIS. L. K. Smith, J. L. Phy, M. J. Odom Dorsett. ART Laboratory, The Centre for Reproductive Medicine, Lubbock, TX.

OBJECTIVE: Compare the effects of Day 3 vs. Day 5/Day 6 embryo transfers on the live birth, implantation and cancellation rates in IVF-ET cases with ≤3 viable embryos on Day 3 of embryo culture.

DESIGN: A ten-year retrospective analysis of all IVF-ET cases with ≤3 viable embryos on Day 3 of embryo culture from January 1, 1998 to April 15, 2007.

MATERIALS AND METHODS: Oocyte insemination was performed with 200,000 motile sperm/mL for 15–18 hrs in 5-well culture dishes with 500 μL of G1.3 media (Vitrolife) + 5% HSA (Vitrolife) overlaid with OvOil (Vitrolife) at a density of 1–5 oocytes/well. All 2PN embryos were then cultured in 20 μL drops of G1.3 media + 5% HSA overlaid with OvOil for 48 hrs. On Day 3 all viable embryos were transferred to 20 μL drops of G2.3 media (Vitrolife) + 5% HSA overlaid with OvOil and cultured to Day 5 or Day 6. All embryos were cultured at a density of 3–5 embryos/drop in a 37°C incubator with 5% CO2. Embryo transfers were performed with an 18 cm Wallace embryo transfer catheter containing ≤15 μL of G2.3 media + 5% HSA or EmbryoGlue (Vitrolife). The implantation rate was defined as the number of fetal sacs with cardiac activity on transvaginal ultrasound at 5 weeks post-transfer/number of embryos transferred. Only IVF-ET cases with ≤3 viable embryos on Day 3 of embryo culture were included in the study. Donor oocytes were utilized in 3% and ICSI in 10% of the IVF-ET cases.

RESULTS: Results are presented in the table below.

CONCLUSIONS: Day 3 and Day 5/Day 6 embryo transfers produced similar live birth rates/retrievals in IVF-ET cases with ≤3 viable embryos on Day 3 of embryo culture. Live birth rates/transfers and implantation rates were significantly increased in Day 5/Day 6 transfers due to a significant increase in the cancellation rate in IVF-ET cases with ≤3 viable embryos on Day 3 of embryo culture.

P-673


OBJECTIVE: The aim was to assess the effect of embryo retention in the embryo transfer catheter followed by immediate retransfer on pregnancy outcome in IVF-ET.

DESIGN: The results of all embryo transfer procedures performed between April 2003 and December 2006 were analyzed retrospectively.

MATERIALS AND METHODS: 842 consecutive fresh, non-donor, ultrasound-guided ETs performed on 685 patients between April 2003 and December 2006 were analyzed. The patients were classified in two groups: patients in whom a transfer was performed without retained embryos (group A; n = 647) and patients in whom one or more retained embryos were found in the catheter after the transfer (group B; n = 38). Implantation and clinical pregnancy rates were statistically analyzed by t test.

RESULTS: The overall incidence of retained embryos during the study period was 5.5% (36 out of 685) following a clean initial embryo transfer. The mean age of the patients (33.8 ± 4.1 vs. 33.7 ± 4.3), mean number of retrieved oocytes (13.0 ± 7.9 vs. 11.2 ± 7.1), fertilized oocytes (8.1 ± 5.4 vs. 7.1 ± 5.0) and the embryos transferred (4.0 ± 1.1 vs. 4.1 ± 0.9) were comparable in patients with and without retained embryos. The 842 embryo transfers performed during the study period resulted in 412 pregnancies (51.3%), of which 342 proved to be ongoing pregnancies (40.6%). The implantation rate was 18.4%. Pregnancy outcomes including clinical pregnancy rates (64.1% vs. 48.2%; P<0.01), implantation rates (23.3% vs. 18.2%; P<0.01) and spontaneous abortion rates (28.0% vs. 16.3%; P<0.05) were significantly higher for group B than for group A. Multiple pregnancy rates (44.0% vs. 41.4%) were not significantly different between patients with and without retained embryos.

CONCLUSIONS: The initial assumption of the authors has been that retained embryos would have an adverse impact on the pregnancy rate. However, our data contradicts this assumption and indicates that the clinical pregnancy rate is not compromised when embryos are retained, provided they are discovered and immediately retransferred into the uterine cavity. Immediate retransfer is more convenient for the patient and reduces the laboratory workload without compromising the treatment outcome.

Supported by: None.

P-674

LENGTH OF PROGESTERONE TREATMENT BEFORE TRANSFER AND IMPLANTATION RATES OF FROZEN-THAWED BLASTOCYSTS. J. Ding, N. Rana, W. P. Dmowski. Oak Brook Fertility Center, Oak Brook Fertility Center, Oak Brook, IL.

OBJECTIVE: To compare implantation rates of frozen-thawed blastocysts transferred on the 6th or 7th day of progesterone administration.

Supported by: None.