randomized, placebo controlled trial, treatment with testosterone at a low or conventional dose did not have an effect on sexual function. When data was analyzed using only those subjects who had an increase in serum testosterone, there was still no difference seen in sexual function.

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O-4 Monday, October 17, 2011 12:00 PM

CLEAVAGE STAGE EMBRYO BIOPSY SIGNIFICANTLY IMPAIRS EMBRYONIC REPRODUCTIVE POTENTIAL WHILE BLASTOCYST BIOPSY DOES NOT: A NOVEL PAIRED ANALYSIS OF COTRANSFERRED BIOPSIED AND NON-BIOPSIED SIBLING EMBRYOS. N. R. Treff, K. M. Ferry, T. Zhao, J. Su, E. J. Forman, R. T. Scott Jr. Reproductive Medicine Associates of New Jersey, Morristown, NJ; Obstetrics, Gynecology, and Reproductive Sciences, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ; Genetics, Rutgers-The State University of New Jersey, Piscataway, NJ.

OBJECTIVE: Recent advances in molecular genetics provide the opportunity to more accurately assess the reproductive potential of embryos. These technologies require embryonic DNA which necessitates embryo biopsy. Amongst the most critical questions surrounding these technologies are the risks associated with embryo biopsy itself, and whether biopsy is safest at the cleavage or blastocyst stage. This study uses a novel paired design to accurately assess the impact of biopsy on day 3 and day 5 of development.

DESIGN: Paired randomized controlled trial.

MATERIALS AND METHODS: Patients received routine care inclusive of embryo selection. Once the 2 best embryos were selected for transfer, one was randomly selected for biopsy and the other to control. The embryos were then transferred together. With resulting pregnancies, DNA fingerprinting of the conceptus was used to determine whether it was derived from the biopsied (self) or non-biopsied (sibling) embryo. Analysis was done using a paired test of proportions.

RESULTS: 103 patients were studied - 32 at the cleavage stage and 71 at the blastocyst stage. There was a dramatic reduction in implantation rates amongst biopsied cleavage stage embryos compared to the non-biopsied controls (31% vs 53%;P=0.035) - a loss of reproductive potential of more than one third. In contrast, the implantation rate of biopsied and non-biopsied blastocysts was equivalent (52% vs 54%; P=0.80).

CONCLUSION: Trophectoderm (TE) biopsy of blastocysts does not adversely impact embryonic reproductive potential. In contrast, biopsy at the cleavage stage was clearly detrimental with a 22% reduction in implantation rate. Optimizing clinical outcomes following PGD might be best realized by performing biopsies at the blastocyst stage. Potential explanations as to why blastocyst biopsy is safe when cleavage stage biopsy is not include the removal of a smaller proportion of the embryo, certainty that only TE cells are biopsied, and better embryonic tolerance of manipulation after genomic activation.

O-5 Monday, October 17, 2011 12:15 PM

LETROZOLE GONADOTROPINS COMBINATION IS INFERIOR TO EITHER LETROZOLE OR GONADOTROPINS ALONE IN WOMEN WITH UNEXPLAINED INFERTILITY AFTER CLOMIPHENE FAILURE: A PROSPECTIVE RANDOMISED CLINICAL TRIAL. S. Sharma, S. Rajani, R. L. Kandula, A. Sarkar, P. Palchaudhuri, B. Chakravarty. ART, Institute of Reproductive Medicine, Kolkata, West Bengal, India; Obstetric, Apollo Gleneagles, Kolkata, West Bengal, India.

OBJECTIVE: Second line of treatment in women with Clomiphene(CC) failure in unexplained infertility is gonadotropins(Gn) which are associated with complications & higher treatment cost. The objective of the present study was to compare the efficacy of letrozole, letrozole gonadotropin and only gonadotropins in women with failed CC and CC-Gn cycles undergoing IUI.

DESIGN: Randomized prospective study between 7/2009 and 12/2010.

MATERIALS AND METHODS: Women with unexplained infertility(n = 261) and CC failure undergoing IUI were randomized into 3 treatment groups. Women in Group A(n = 87cycles = 220) received letrozole(5mg/day from day3-7), Group B (n = 87cycles = 221) received letrozole(5mg/day from day3-7) plus u-FSH 75IU from day7 onwards & Group C(n = 87cycles = 211) received continuous u-FSH 75IU from day3 onwards until hCG injection. The number of follicles, days of stimulation, dose of gonadotropins, endometrial thickness (ET), pregnancy rate per completed cycle, cancellation rates, multiple pregnancy & miscarriage rate were compared between the groups.

RESULTS: The pregnancy rate is comparable between letrozole(9.09%) and FSH(13.2%) while lower in letrozole –FSH combination(4.6%). Letrozole- FSH treated cycles had the shortest follicular phase(10 $\pm$ 0.9) vs12 $\pm$ 0.8 with FSH & 12 $\pm$ 0.8 with only letrozole with comparable number of dominant follicles. ET in FSH cycles(10.1 $\pm$ 0.8) was significantly higher in comparison to GrA(8.5 $\pm$ 0.7) and GrB(7.8 $\pm$ 0.4;P<.0001). IUI cancellation rate was least in letrozole(5%) while Group B and Group C had a cancellation rate of 14.09% and 10.4% respectively.

CONCLUSION: Letrozole- FSH protocol is associated with higher cancellation & lower pregnancy rates. A shorter follicular phase by the synergistic action of letrozole & exogenous gonadotropins probably leads to a lower ET and follicular-endometrial dyssynchrony at the time of hCG administration leading to lower pregnancy rates. Letrozole alone appears to be a cost-effective alternative to gonadotropins for patients with unexplained infertility in CC failure.

O-6 Monday, October 17, 2011 12:30 PM

COST-EFFECTIVENESS ANALYSIS COMPARING CONTINUATION OF ART WITH CONVERSION TO IUI IN PATIENTS WITH LOW FOLLICLE NUMBERS. B. Yu, S. Mumford, J. H. Segars, A. Armstrong. Program in Adult and Reproductive Endocrinology, NICHD, National Institutes of Health, Bethesda, MD; Epidemiology Branch, Division of Epidemiology, Statistics, and Prevention Research, NICHD, National Institutes of Health, Bethesda, MD.

OBJECTIVE: In managing patients with poor response during assisted reproductive technology (ART) cycles, the decision to proceed to oocyte retrieval and subsequent ART versus conversion to intrauterine insemination (IUI) is often based on financial considerations. Our objective was to identify the most cost-effective procedure from a societal perspective in patients with 4 or fewer mature follicles during ART.

DESIGN: Decision tree mathematical model with sensitivity analysis utilizing published data.

MATERIALS AND METHODS: PubMed was searched to determine pregnancy rates in poor responders defined as 4 or less mature follicles at time of hCG. Charges were used as a surrogate to direct societal costs, in 2010 dollars, and obtained from individual clinic websites. A decision tree comparing continuing ART cycle versus conversion to IUI was created from the perspective of societal costs per ongoing pregnancy. Sensitivity analyses were performed over the range of costs and pregnancy rates.

RESULTS: Based on pregnancy rates published in the largest series, we calculated median societal cost per ongoing pregnancy (Table). Cost analysis favored continuation with ART in each follicle number subgroup. Sensitivity analysis showed that continuation with ART was more cost-effective if ongoing pregnancy rate for ART is 48% or higher than converting to IUI.

	Conversion to IUI			Continuation with ART Cycle		
# Mature Follicles	Clinical Pregnancy Rate (%)	Ongoing Pregnancy Rate (%)	Cost Per Ongoing Pregnancy ($)	Clinical Pregnancy Rate (%)	Ongoing Pregnancy Rate (%)	Cost Per Ongoing Pregnancy ($)
1	5.8	2.5	380,000	8.5	4.5	311,111
2	3.9	1.6	593,750	14.9	7.6	184,211
3	12	7	135,714	25.7	20	70,000
4	12	12	79,167	25.7	22	63,636

CONCLUSION: In patients with 4 or fewer mature follicles during ovarian hyperstimulation in ART cycles, it was more cost effective from a societal viewpoint to proceed to oocyte retrieval and subsequent ART, rather than to convert to IUI.

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