OBJECTIVE: To assess the effect of repetitive transvaginal ovarian needle punctures as compared to laparoscopic ovarian drilling on antral follicle counts (AFC), serum antimulerian hormone levels (AMH) and pregnancy rates in anovulatory women with PCOS.

DESIGN: A six month cohort study was undertaken to compare outcomes in PCOS women who underwent transvaginal ultrasound guided ovarian injury using a 16 gauge oocyte collection needle and PCOS women with laparoscopic ovarian drilling (dithermy, 8 punctures). Couples with significant sperm abnormalities were excluded.

MATERIALS AND METHODS: 126 anovulatory subjects, 67 with ovarian injury (OI) due to a trans-vaginal in-vitro maturation collection (which failed to result in pregnancy) and 59 who underwent laparoscopic ovarian drilling (LOD) were compared. Primary outcome was spontaneous pregnancy rate. In addition body mass index (BMI), AFC and AMH levels were measured pre intervention and at the 3rd and 6th months. Both groups received no further treatments. Shapiro Wilk's test was used for assessing normal distribution. Chi-squared, T tests or Mann Whitney U test were used. Data is presented as mean±SD or median (range).

RESULTS: Pretreatment, median serum total testosterone level were higher in the OI than the LOD groups(P=0.001), other hormone levels were similar. BMI at time 0, 3 and 6 months did not differ between the two interventions. However, serum AMH levels were lower at time 0, 3 months and 6 months ($p<0.001$) in the LOD when compared to the OI group. At 3 and 6 months AMH levels decreased more significantly in the LOD than the OI group (-26.4% (-41.5 to -5.5) vs. -12.5% (-26.3 to -0.9), $p<0.001$)) and (-29.2% (-55.6 to -3.5) vs. -12.6% (-28.7 to 1.86), $p<0.001$)), respectively. % decrease in AFC was also greater in the LOD group than the OI subjects at 3 months (-24% (-37 to -8) vs. -12% (-56 to 0) , $p<0.001$) and at 6 months (-27% (-44 to-4) vs. -5% (-29 to 9), $p<0.001$). However cumulative pregnancy rates at 6 months were similar LOD (35%) vs OI (55%) ($P>0.05$).

CONCLUSIONS: Although, ultrasound guided transvaginal ovarian needle injury results in less significant improvements in AMH and AFC levels in anovulatory PCOS women than does LOD, pregnancy rates trended higher with this OI. This suggests a less invasive method of ovarian injury may be available than laparoscopy for patients requiring this mechanism to conceive.

OBESITY AND METABOLISM

P-379 Wednesday, November 1, 2017

EFFECTS OF ANTHROPOMETRIC INDICES OF CENTRAL OBESITY AND METABOLIC SYNDROME ON IVF/ICSI OUTCOME. A. Ozgu-Erdinc,[a] N. Yilmaz,[b] E. Isci Bostanci,[a] C. Gulerman,[c] Y. Ustun.[a] [a]Reproductive Endocrinology, University of Health Sciences, Ankara Dr. Zekai Tahir Burak Health Practice Research Center, Ankara, Turkey; [b]Reproductive Endocrinology Department, ZTB, Ankara, Turkey; [c]Zekai Tahir Burak Women's Health Education and Research Hospital, Ankara, Turkey.

OBJECTIVE: The aim of the study is evaluating the impact of anthropometric indices of obesity, particularly central obesity or metabolic syndrome on IVF/ICSI outcome.

DESIGN: Prospective Cohort study consisting 269 patients who has underwent IVF/ICSI treatment between April 2013-February 2014.

MATERIALS AND METHODS: The study was conducted at the IVF unit of our hospital. Eligible participants were 371 patients who have admitted to the unit for IVF/ICSI treatment during the study period. A total of 308 women were enrolled in the study where embryo transfer was not achieved in 39 patients. Data from 269 women were analyzed to compare the clinical outcome (implantation, miscarriage, and live birth rate). All participants' waist and hip circumference, weight and height were calculated at the initial visit on day 2/3 of the menstrual cycle. Fasting plasma glucose and insulin were analyzed the same day and HOMA-IR were calculated according to the formula HOMA-IR = [Glucose] X [Insulin] / 405 (Glucose in mg/dL). Conicity index was calculated according to the formula C index = Waist/$[0.109\times\sqrt{((\text{Weight/Height}))}]$ and body adiposity index was calculated according to the formula BAI=[Hip /(Height$\sqrt{\text{Height}}$)]-18. Metabolic syndrome was defined according to the International Diabetes Federation's consensus definition reported in 2005. Statistical analysis was performed using partial correlation, binary logistic regression, roc curve and chi square analysis where appropriate.

RESULTS: Controlled ovarian hyperstimulation was performed by either a GnRH-antagonist or a long GnRH-agonist protocol in 99.1% of the patients. The median age was 30 (20-45). There was 81(30.1%) pregnancies with 6 chemical pregnancies, 19 (25.3%) miscarriages and 56 (20.8%) live births. None of the indices (waist circumference (WC), waist to hip ratio (WHR), waist to height ratio (WHtR), conicity index (C-Index), body adiposity index (BAI) and body mass index (BMI) , neither metabolic syndrome nor insulin resistance was found to be associated with clinical outcome in terms of implantation, miscarriage and live birth rate ($p>0.005$).

CONCLUSIONS: Our study indicates that neither central obesity nor metabolic syndrome does not significantly impair pregnancy rates among infertile women undergoing IVF/ICSI. Anthropometric indices of obesity and metabolic syndrome has no predictive role on IVF/ICSI clinical outcome. However, this must be confirmed by well-designed prospective studies with large sample sizes.

P-380 Wednesday, November 1, 2017

FEMALE, MALE, AND JOINT COUPLE BMI ARE ASSOCIATED WITH INFERTILTY AMONG USERS OF A LARGE U.S. FERTILTY APP. A. Lange,[a] B. Plaku-Alakbarova,[b] J. Yeh,[a] C. Messerlian,[b] T. L. Toth.[a] [a]Massachusetts General Hospital Fertility Center, Boston, MA; [b]Environmental Health, Harvard T.H. Chan School of Public Health, Boston, MA.

OBJECTIVE: Body mass index (BMI) has been shown to affect fertility but conflicting data exists regarding the impact of male BMI on natural fertility. We examined the association of female BMI, male partner BMI, and a couple's joint BMI with the number of months trying to conceive (TTC) among women using a fertility-tracking app.

DESIGN: Cross-sectional big data

MATERIALS AND METHODS: De-identified self-reported data collected between March 2014 and April 2016 was obtained from a U.S. fertility-tracking app. Upon app download, women were prompted to report the number of months they had been TTC. Users reported BMI values for themselves and their partners within 4 BMI categories (<18, 18-25, 25-30, and ≥30). We used multivariable logistic regression to examine female and male BMI independently as well as a couple's joint BMI (combinations of categories of BMIs) in relation to TTC ≥12 months vs TTC <12 months. Analysis was performed for TTC at time of app download and follow-up. We adjusted for age, race, and education.

RESULTS: A total of 34,865 women provided complete data on female variables of interest. Women averaged 29 years old and 50% had a BMI of 18-25 kg/m^2. Compared with normal BMI, overweight (OR: 1.5, 95% CI: 1.4, 1.6), obese (OR: 2.3, 95% CI: 2.2, 2.5) and underweight (OR: 1.3, 95% CI: 1.1, 1.6) were independently associated with TTC ≥12 months upon initial app use. The increased odds of TTC ≥12 months was maintained at follow-up among overweight (OR: 1.3 95% CI: 1.3, 1.5), obese (OR 2.1 95% CI: 1.9, 2.2) and underweight (OR 1.2, 95% CI: 1.02, 1.4) women. Among women in the above sample, 24,349 provided partner BMI, with 54% reporting a male BMI of 18-25 kg/m^2. Compared with normal BMI partners, women with obese partners had a 1.2 (95% CI: 1.1, 1.4) times higher odds of TTC ≥12 months at app download and follow-up (OR 1.2, 95% CI: 1.1, 1.3). Increasing joint BMI scores were associated with TTC ≥12 months. Compared to a normal-normal weight referent (score #3), odds of infertility increased by 40% among couples with pairs of normal-overweight (#4); by 50% in overweight-overweight (#5); by 90% in underweight-overweight (#6); by 110% in normal-obese (#7); by 130% in overweight-obese (#8); by 160% in underweight-obese (#9), and by 170% in obese-obese (#10) respectively (OR and 95% CI: 1.4 (95% CI: 1.2, 1.5), 1.5 (95% CI: 1.3, 1.7), 1.9 (95% CI: 1.4, 2.5), 2.1 (95% CI: 1.9, 2.4), 2.3, (95% CI: 2.0, 2.6), 2.6 (95% CI: 1.9, 3.7), and 2.7 (95% CI: 2.4, 3.0)). This effect was maintained at follow-up as well.

CONCLUSIONS: Our results confirm that low and elevated female BMI are associated with infertility in this cohort of app users. We also identified an association between both male and joint couple BMI and infertility among this cohort. A joint obese-obese couple conferred greater odds of infertility than obesity in either partner alone. Discrepancy in joint BMI emerged as a risk factor, conferring greater infertility odds than more similar joint BMI.

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MATERNAL OBESITY IS NOT ASSOCIATED WITH INCREASED MISCARRIAGE RATES FOLLOWING EUPLOID BLASTOCYST TRANSFER. K. L. Hornberger, A. Bartoli, A. King, N. Bachman, D. Young, D. Klepacka, W. B. Schoolcraft, M. Katz-Jaffe. Colorado Center for Reproductive Medicine, Lone Tree, CO.

OBJECTIVE: Maternal obesity is associated with higher miscarriage and decreased live birth rates following natural conception and in vitro fertilization