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Abstract Topic: 2. ART-Other
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Data is submitted for a separate scientific abstract and video presentation: No

Awards:
Resident In-Training
SRS In-Training Award for Research
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submission.

Title: ASSOCIATION OF THE NUMBER OF FOLLICLES, FOLLICULAR SIZE AND
TREATMENT PROTOCOL WITH MULTIPLE PREGNANCIES AND
HYPERSTIMULATION AFTER OVULATION INDUCTION AND INTRAUTERINE
INSEMINATION
Objective: The goal of this study was to determine the relationship between the number of ovarian follicles of different sizes and the stimulation protocol to the probability of multiple pregnancies

Design: Retrospective study

Materials and Methods: Out of 1598 cycles of ovulation induced IUI for 578 patients from January 2003 to July 2005, there were 331 clinically pregnant cycles among 313 patients. The number of observed cycles per patient ranged from 1 up to 6. Female age, treatment protocol, follicle number and size on the day of HCG administration and number of gestational sacs detected by transvaginal ultrasonography at 7-9 weeks of gestation were calculated for each cycle. Ovulation induction was done by Clomiphene citrate (CC), CC and human menopausal gonadotropin (hMG) or hMG alone. Ovarian response was monitored by transvaginal ultrasonography. 10,000 IU of HCG was given when dominant follicle reached maturity. A single IUI was performed 36 hours after hCG administration. IUI was performed with Husband's semen. Follicles were categorized by size as ≥18mm, 15-18 mm, 13-17 mm and ≤12mm. Luteal phase was not supported by exogenous progesterone.

Results: Among 331 pregnant cycles, there were 104 (31.4%) multiple pregnancies consisting of 103 twin and 1 triplet pregnancy. Multiple pregnancy rate in CC, CC + hMG and hMG cycles were, 2.6, 13.2 and 13.1% per cycle respectively (p<0.001 for either CC or hMG vs. CC + hMG). Hyperstimulation rate in CC, CC + hMG and hMG cycles were 1.7, 5.9 and 5.0% per cycle (p = 0.005 for CC + hMG vs. CC, p<0.001 for CC + hMG vs. hMG). In cycles with measured follicle size, a size of at least 18mm was associated with a greater risk of multiple pregnancy/ cycle (25.9% vs. 15.9%, p = 0.006), but a non-statistically significant lower risk of multiple pregnancy was observed per pregnancy for follicle size at least 18mm (49.2% vs. 62.8%, p = 0.14). Cycles with 1-5, 6-10, and >10 follicles had multiple pregnancy rates/ cycle of 6.2, 18.3, and 24.9%, respectively (for 1-5, p = 0.019 vs. 6-10, p = 0.002 vs. >10).

Conclusions: The risk of multiple conceptions as well as hyperstimulation showed some association with follicle size of at least 18mm. The CC + hMG protocol of ovulation induction revealed a higher risk of multiple conceptions as well as hyperstimulation.

Support: None.

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