

MATERIALS AND METHODS: 229 Caucasian and 236 Indian infertile women undergoing their 1st or 2nd IVF cycle were prospectively included in the study. Inclusion criteria: < 43 years old, two ovaries present, ART due to male factor, tubal disease or failed IUI. Exclusion criteria: PCO, stage III-IV endometriosis, and PID. Ovarian reserve markers included AMH, day 2/3 FSH, estradiol, and antral follicle count. Also, total number of oocytes retrieved as well as total MII were recorded.

RESULTS: With a 6-year gap in age between groups, AFC and day 3 FSH were comparable, although AMH was slightly lower in Caucasian. Cycle

Results-Descriptive table

| | Caucasian | Indian | p value |
|------------------|-----------|-----------|---------|
| N | 229 | 236 | |
| Average age | 37.5+3.3 | 31.5+3.8 | <0.0001 |
| Average BMI | 22.1±3.1 | 24.9±4.3 | <0.0001 |
| AMH | 1.6±1.7 | 2.5±1.6 | 0.0033 |
| FSH 2nd-3rd day | 7.9±4.5 | 6.6±2.3 | 0.0002 |
| E2 2nd-3rd day | 55.7±40.3 | 41.4±20.2 | <0.0001 |
| AFC | 9.5±4.7 | 9.9±4.6 | 0.4 |
| Days stimulation | 10.1±2.2 | 9.5±1.4 | 0.0004 |
| Oocyte retrieved | 8.8±6.9 | 8.8±5.6 | 0.9 |
| MI I retrieved | 6.7±4.9 | 7.5±4.8 | 0.14 |
| Zigotes | 5.2±3.9 | 6.2±4.4 | 0.008 |
| Mean ET | 1.7±0.8 | 2.2±0.5 | <0.0001 |

outcome, was comparable between patient populations: similar number of oocytes retrieve and MII obtained. There was a significant negative correlation between aging and AFC/AMH maintained while aging, evidencing the 6-year gap.

CONCLUSION: Ovaries from Indian women seem to age at an earlier stage than Caucasian. Similar ovarian reserve markers and ovarian response was observed in women with a 6-year difference in favour of Caucasian, which suggest ethnic differences in ovarian aging.

Supported by: Our result may help clinician to adequately counsel infertile women when discussing ART outcome according to age and ethnic background.

P-18 Tuesday, October 15, 2013

ANTI-MULLERIAN HORMONE AND ANTRAL FOLLICLE COUNT ARE LOWER IN WOMEN TAKING HORMONAL CONTRACEPTION. L. N. C. Johnson,^a K. E. Dillon,^a

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OBJECTIVE: To determine the impact of hormonal contraception (HC) on markers of ovarian reserve, including Anti-mullerian hormone (AMH) and antral follicle count (AFC).

DESIGN: Longitudinal, prospective cohort.

MATERIALS AND METHODS: Young adult cancer survivors and healthy, age-matched controls were followed annually for assessment of ovarian reserve, including early follicular hormone levels and transvaginal ultrasound. Subjects who used HC in the 4 weeks preceding the study visit were considered in the exposed group. Log-transformed AMH and AFC among recent HC users and non-HC users were analyzed using random effects linear models controlling for age, smoking, and cancer history.

RESULTS: 227 women (112 survivors, 115 controls) with average age of 25.7 years were followed for a mean of 1.94 years. Recent HC exposure was observed in 12.9% of visits. In univariate analyses, AMH and AFC were significantly lower with increasing age, history of cancer, and use of HC, and there was a trend toward lower levels among smokers. After adjusting for age, smoking, and history of cancer, women with recent HC use had a 44% reduction in AMH compared to non-HC users (95% CI 13-50%, p=0.003) and a 17% reduction in AFC (95% CI 3-29%, p=0.015). When the analysis was restricted to cancer survivors, survivors using HC had a 33% reduction in AMH (95% CI 0-66%, p=0.051) and a 19% reduction in AFC (95% CI 2-32%, p=0.029) compared to survivors not using HC. Controls using HC also had a significantly lower AMH compared to non-HC controls (35% reduction, 95% CI 6-55%, p=0.031). There was no difference in AFC between control women using HC and controls not using HC.

CONCLUSION: AMH and AFC are significantly lower among women using HC compared to non-users. AMH and AFC should be interpreted with

caution when measured in the setting of recent hormone use. Further studies are needed to determine the length of time required for these measures to return to normal after discontinuation of HC.

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P-19 Tuesday, October 15, 2013

THE USE OF SYMPATHOMIMETIC AMINES FOR SEVERE PELVIC PAIN MAY HELP DEFER POTENTIALLY OOCYTE DAMAGING LAPAROSCOPIC SURGERY. J. H. Check,^{a,b}

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OBJECTIVE: To determine if treatment with sympathomimetic amines could provide sufficient pelvic pain relief to preclude laparoscopic surgery which has been shown to further diminish oocyte reserve in women with endometriosis.

DESIGN: Prospective without randomization.

MATERIALS AND METHODS: Women who had severe pelvic pain and infertility where the pain was so severe that another laparoscopy was considered to relieve the pain were offered the option of being treated with dextro-amphetamine sulfate in lieu of having more surgery. A requirement was that they had had at least one previous laparoscopy with the diagnosis of endometriosis. They were advised that another attempt to remove endometriosis could lead to oocyte depletion. Those choosing to try the sympathomimetic amine treatment started at 15mg extended release capsules and could be increased to 40mg if needed. They were asked to fill out a form after 3 and 6 months of therapy to indicate if they had no improvement in pain, mild improvement, moderate improvement or marked improvement.

RESULTS: There were 15 women recruited. The average age was 32.5. After 3 months 7 reported marked, 5 moderate and 3 mild improvement. By 6 months 8 (53.3%) reported marked improvement, 6 (40%) moderate improvement and 1 with mild improvement. Even the one with mild improvement said she did not want to consider a laparoscopy.

CONCLUSION: Other than narcotics all other medical treatments for endometriosis, e.g., oral contraceptives, impeded androgens, gonadotropin releasing hormone agonists would preclude pregnancy. The use of sympathomimetic amine therapy seems to provide sufficient pain relief to allow attempts at trying to conceive without the risk of more surgery possibly leading to diminished oocyte reserve. The mechanism of action has been hypothesized to eradicate pelvic pain by negating increased cellular permeability preventing absorption of chemicals into tissues with subsequent inflammation.

P-20 Tuesday, October 15, 2013

THE IMPACT OF THE ADDITION OF TAXANE TO AC REGIMEN ON OVARIAN FUNCTION IN BREAST CANCER PATIENTS: A META-ANALYSIS OF FIVE RANDOMIZED STUDIES. O. Oktem,^{a,b} B. Ata,^c B. Urman.^{a,b} ^aObstetrics and Gynecology, Koc University School of Medicine, Istanbul, Turkey; ^bWomen's Health Center Assisted Reproduction Unit, American Hospital, Istanbul, Turkey;

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OBJECTIVE: Breast cancer survivors are confronted with infertility and premature ovarian failure due to cytotoxic effects of (neo)adjuvant chemotherapy regimens on the ovary. In contrast to well documented ovarian toxicity of older chemotherapy regimens such as CMF and CEF, data on the risk of amenorrhea after exposure to newer taxane containing regimens has recently emerged. We therefore conducted a meta-analysis to analyze the impact of the addition of taxane (Paclitaxel) to AC combination (AC+T) on ovarian function in breast cancer patients.

DESIGN: A meta-analysis.

MATERIALS AND METHODS: Five randomized prospective studies assessing the impact of taxane on the risk of amenorrhea in a total of 977 breast cancer patients were included in meta-analysis as shown in the table.

RESULTS: Overall, the addition of taxane to AC combination did not increase the risk of amenorrhea 6 months after completion of chemotherapy

| | AC+T | | AC | | Weight | Odds Ratio |
|-------------------------|--------|-------|--------|-------|--------|--------------------|
| | Events | Total | Events | Total | | M-H, Fixed, 95% CI |
| Abusief et al. 2010 | 115 | 204 | 125 | 228 | 49.6% | 1.06 (0.73, 1.56) |
| Reh et al. 2008 | 10 | 24 | 5 | 17 | 3.3% | 1.73 (0.46, 6.43) |
| Stone et al. 2000 | 8 | 21 | 26 | 60 | 8% | 0.8 (0.29, 2.23) |
| Sukumvanich et al. 2010 | 64 | 141 | 34 | 91 | 21.7% | 1.39 (0.81, 2.39) |
| Tham et al. 2007 | 74 | 116 | 41 | 75 | 17.4% | 1.46 (0.81, 2.64) |
| Total (95% CI) | | 506 | | 471 | 100% | 1.21 (0.93, 1.56) |
| Total events | 271 | | 231 | | | |

($p=0.16$). However, the risk is significantly increased in patients older than age 40 compared to those < age 40 (odds ratio 2.03 95% CI: 1.29, 3.19, $p=0.002$). Heterogeneity: $\chi^2=1.97$, $df=4$ ($P=0.74$); $I^2=0\%$ Test for overall effect $Z=1.41$ $P=0.16$

CONCLUSION: These findings indicate that gonadotoxic potential of paclitaxel should be taken into consideration when counseling breast cancer patients who have concern for fertility if they are older than age 40 and/or have diminished ovarian reserve.

P-21 Tuesday, October 15, 2013

INTEROVARIAN ANTRAL FOLLICLE COUNT (AFC) DISCORDANCE IN THE PRESENCE OF A UNILATERAL DOMINANT FOLLICLE (DF). J. E. Adams, M. A. Delaney, H. Sangi-Haghpeykar, E. Kovanci, C. T. Valdes, W. P. Gibbons. Reproductive Endocrinology & Infertility, Baylor College of Medicine, Houston, TX.

OBJECTIVE: On the basis of clinical observation we hypothesized that the ovary containing a DF has a lower AFC than the contralateral ovary, and planned to evaluate this difference.

DESIGN: Retrospective observational study.

MATERIALS AND METHODS: We searched our follicular monitoring database for ultrasound (US) data on patients who had undergone a mid-cycle pre-ovulatory US during the course of ovulation induction (OI) with oral medication. All recorded mid-cycle scans from Dec 2010 to Mar 2013 were reviewed. Scans were included only when it was the first such cycle of monitored OI for that patient with no OI in the month prior, and DF (≥ 16 mm) growth was unilateral with the contralateral ovarian follicles all measuring ≤ 14 mm. Scans were excluded if there was no or bilateral DF development, if another cyst type was present, or if there was a history of salpingectomy or ovarian cystectomy. 72 scans met inclusion criteria. Measurements were made by 3 experienced sonographers on a Voluson E8 endovaginal transducer with a frequency of 5-9 MHz. 3D image storage was used with manual count. AFC for each ovary was the number of follicles with a mean diameter of 2-10 mm. Data was compared using Wilcoxon signed rank test.

RESULTS: Of the 72 mid-cycle scans, 55 (76%) had a greater AFC on the non-DF side, with discordance meeting significance at $p < .0001$.

| Comparison of AFC between the DF and non-DF ovary | | | |
|---|---------------|-------------------|--------------|
| | AFC: DF Ovary | AFC: non-DF Ovary | Significance |
| Mean +/- SD | 6.63 +/- 4.27 | 10.51 +/- 5.80 | $p < .0001$ |
| Median (range) | 6 (0-19) | 10 (2-30) | |

A sub-analysis of consecutive cycles in which the DF was produced in the contralateral ovary from the previous cycle was done. In 67% of cycles, the higher AFC switched sides as well, remaining in the ovary without the DF. Because of a small 'n' this was not significant, but the pattern remained the same.

CONCLUSION: The ovary containing the DF appears to suppress the local AFC. This suggests that the physiologic mechanisms to prevent multiple ovulation related to DF growth decrease the AFC in that ovary.

P-22 Tuesday, October 15, 2013

CURRENT OVARIAN RESERVE TESTING PREFERENCES AMONG US REPRODUCTIVE ENDOCRINOLOGISTS. Y. Ibrahim,^{a,b} V. Moragianni,^{a,b} M. R. Hacker,^{a,b} A. Merport Modest,^a D. Seifer.^c ^aObstetrics and Gynecology, Beth Israel Deaconess Medical Center, Boston, MA; ^bObstetrics, Gynecology and Reproductive Biology, Harvard Medical School, Boston, MA; ^cGenesis Fertility & Reproductive Medicine, Brooklyn, NY.

OBJECTIVE: To assess current practices of US reproductive endocrinologists (REs) regarding tests of ovarian reserve (TOR).

DESIGN: Survey of Society for Assisted Reproductive Technology (SART) member REs.

MATERIALS AND METHODS: SART approved the survey and an anonymous link was emailed to members. The survey asked about preferences of TOR, emphasizing on current use of anti-mullerian hormone (AMH).

RESULTS: There were 189 responses (37% response rate). The majority (70.9%) were from community-based practices—of which 73.5% performed <500 and 12.2% performed >1000 IVF cycles in 2012. Follicle-stimulating hormone with estradiol was the preferred TOR (29.1%), followed by AMH (26.5%), antral follicle count (16.4%) and hormone combination (16.4%). The most cited factors influencing choice of TOR were patient age (83.6%) and previous response to treatment/number of cycles (65.6%). The majority (97.4%) of respondents reported ordering AMH. Of those, 119 (64.7%) requested it $\geq 80\%$ of the time and 46 (25.0%) used it 10% to <80% of the time. Among those who ordered AMH <80% of the time, the most cited reason it was not ordered more frequently was the belief that more evidence was needed to support its use (27.4%), with lack of insurance coverage and of in-house availability cited by 16.1% each. For those who ordered AMH $\geq 80\%$ of the time, it was part of an initial evaluation (69.8%), before starting IVF (11.0%), and following other abnormal TOR (11.0%). For those who ordered AMH $\geq 80\%$ of the time, 12.7% have used AMH for ≥ 5 years and 83.2% interpret it in combination with other markers. TOR preferences did not differ between university and community-based REs ($P=0.83$).

CONCLUSION: Current TOR preferences vary among US REs and appear to be influenced by patient characteristics, such as age and history of treatment response. AMH appears to be a well-accepted TOR; however, some feel more research is warranted regarding its value in predicting ovarian reserve.

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P-23 Tuesday, October 15, 2013

DO AGE OR ANTIMULLERIAN HORMONE LEVELS PREDICT ABNORMAL PATTERNS OF EMBRYONIC DEVELOPMENT USING TIME LAPSE IMAGING? E. Soto,^a R. Flyckt,^a K. Holoch,^a J. Goldberg,^a N. Desai.^b ^aObstetrics, Gynecology and Women's Health, Cleveland Clinic, Cleveland, OH; ^bCleveland Clinic Fertility Center, Cleveland Clinic, Beachwood, OH.

OBJECTIVE: Time-lapse observation has allowed first-hand observation of early events in human embryo development. Abnormal events that may be observed include reverse cleavage (RC) and multinucleation (MN). The exact mechanisms for these events and their association with clinical entities, such as diminished ovarian reserve, is not well known. The objective of our study was to analyze if age or levels of Anti-Mullerian Hormone (AMH) are able to predict the timing of early embryo normal and abnormal (morphokinetic) events (e.g., RC and MN).

DESIGN: Retrospective cohort study.