AMH levels). All tests were performed in AM; values obtained at baseline, 30 and 60 minutes.

RESULTS: Ages were similar (32.7 ± 3.3 vs. 34.4 ± 3.9 years; N.S.). FSH levels were significantly higher in Group II (6.8±2.4 vs. 21.6±23.9; P<0.001). While cortisol, DHEA, or 17OHP did not differ significantly at baseline and after stimulation, all three showed trend toward stronger adrenal response to stimulation in Group II. Molar ratios of cortisol/DHEA (rC/D) were in both groups similar to those established in healthy subjects (J Clin Endocrinol Metab. 2012 97:3655-62). Baseline rC/D were marginally higher in Group II (29.1±9.1 vs. 48.7±33.0; P=0.06), converging at 30 and 60 minutes.

CONCLUSION: Adrenal cortex of women with prematurely DFOR at baseline appears mildly activated but capable of response to ACTH stimulation. That rC/A in Group II at baseline is marginally higher but mimics that of Group I upon ACTH stimulation suggests that ACTH-stimulation disproportionally increases DHEA/androgen synthesis compared to cortisol, providing further evidence for a possible adrenal-produced androgen stimulation factor, previously suggested regarding immune observations in women with premature ovarian senescence (Gleicher et al., ESHRE 2013/Reprod Biol Endocrinol 2013; In press).

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**P-48** Tuesday, October 15, 2013

**ANALYSIS OF TWO ASSAYS FOR THE MEASUREMENT OF AMH IN WOMEN WITH LOW OVARIAN RESERVE.** R. Fleming,[a] C. Fairbairn,[a] D. Lucas,[a] M. Gaudoin,[a] R. A. Anderson.[b] [a]Glasgow Centre for Reproductive Medicine, Glasgow, Strathclyde, United Kingdom; [b]MRC Centre for Reproductive Health, University of Edinburgh, Edinburgh, Lothian, United Kingdom.

OBJECTIVE: The measurement of AMH is increasingly well validated as a marker of the functional ovarian reserve, but there is a lack of standardization of assays, which may be of particular importance at the extremes of the working range. In this study we have assessed the Ansh Labs and Beckman-Coulter GenII AMH assays in two groups of women with identified low ovarian reserve.

DESIGN: Comparison of two AMH assays, in women about to have IVF, or with breast cancer during and following chemotherapy.

MATERIALS AND METHODS: Women (n= 69) with low ovarian reserve (AMH < 7.5 pmol/L) pre IVF had a further blood sample taken 2 days prior to starting stimulation, (Flare protocol, 225 IU rFSH daily). Samples were obtained from women with breast cancer (n=57, 90 samples) after starting chemotherapy. Serum samples were analysed using both GenII and Ansh assays.

RESULTS: The limit of sensitivity was 1.5pmol/l for Gen II and estimated to be 0.2 for Ansh. The absolute values for AMH correlated closely (r=0.96 and 0.92 in the two groups) in the two assays, although the Ansh values were 34% higher. There remained a good relationship even at very low values (<4pmol/l), r=0.81. In breast cancer samples, AMH was undetectable in 52 using GenII, but the Ansh assay showed detectable AMH in 11 of these, mean 1.5pmol/l.

Both assays showed significant ability to predict oocyte yield in the IVF cohort, but there was no difference in the relationship between oocyte yield and AMH. The assays showed similar discrimination between women with oocyte yield of 0-3 vs ≥4 eggs.

CONCLUSION: AMH values were consistently higher with the Ansh assay, by approx 30% but there was a very close correlation between the 2 assays, even at the extreme low end. These results are consistent with the Ansh assay having a greater sensitivity, which may be of value in some clinical situations such as following chemotherapy, but does not appear to be of clinical value prior to IVF.

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**P-49** Tuesday, October 15, 2013

**GENETICS OF EXOGENOUS DEHYDROEPIANDROSTERONE (DHEA) CONVERSION TO TESTOSTERONE (T) IN HYPOANDROGENIC WOMEN AS TOOL TO INDIVIDUALIZED INFERTILITY TREATMENTS.** A. Shohat-Tal,[a] V. A. Kushnir,[a] D. H. Barad,[a,b] N. Gleicher.[a,b] [a]Center for Human Reproduction, New York, NY; [b]Foundation for Reproductive Medicine, New York, NY.

OBJECTIVE: To review whether within a framework of DHEA supplementation in women with hypoandrogenism the genetic control of DHEA metabolism to T can be diagnostically utilized to individualize infertility care.

DESIGN: Literature search of PubMed and Google Scholar up to April 2013.

MATERIALS AND METHODS: We searched under appropriate keywords for polymorphism/mutations affecting T levels, in vitro studies and animal models, the molecular basis of genetic variants and mechanisms by which they may affect female hormone profiles, and treatment options which can affect serum T levels by targeting genes in steroidogenic pathways.

RESULTS: Common genetic polymorphisms and/or mutations affecting serum androgen levels include those in DHEA sulfotransferase, aromatase, 5α-reductase, androgen receptor (AR), sex-hormone binding globulin (SHBG), fragile-X mental retardation ([italics]FMR1[/italics]), and [italics]BRCA1[/italics] genes. These variants may, in some hypoandrogenic patients, even after DHEA supplementation, underlie persistently low T levels. Various examples are presented. Treatment options used to raise T levels and can affect in vitro fertilization (IVF) outcomes include direct administration of T or treatments involving aromatase or 5α- reductase inhibition, which target enzymes coded by some of these genes.

CONCLUSION: Short of screening for all possible genetic variants, a woman's hormonal profile following DHEA supplementation may point to deficiencies in specific genes and/or pathways, thus suggesting preferred treatment approaches. Such a new diagnostic approach may, in analogy to other medical specialties, based on genetic markers, initiate more individualized and rationally designed infertility treatments for patients with androgen-deficient forms of ovarian senescence, including premature ovarian aging (occult primary ovarian insufficiency) and diminished functional ovarian reserve, both recently demonstrated to be hypoandrogenic states.

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**P-50** Tuesday, October 15, 2013

**OVARIAN RESERVE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS AND IRREGULAR BLEEDING.** A. Morales-Martínez,[a] C. Salas-Castro,[a] L. H. Sordia-Hernández,[a] M. R. García-Garza,[a] J. G. González-González,[b] M. A. Garza-Elizondo.[c] [a]University Centre of Reproductive Medicine, Hospital Universitario Dr. José Eleuterio González, Monterrey, Nuevo León, Mexico; [b]Endocrinology Unit, Hospital Universitario Dr. José Eleuterio González, Monterrey, Nuevo León, Mexico; [c]Rheumatology Unit, Hospital Universitario Dr. José Eleuterio González, Monterrey, Nuevo León, Mexico.

OBJECTIVE: To determine ovarian reserve using antimüllerian hormone levels (AMH) in patients with Systemic Lupus Erythematosus (SLE) with and without irregular bleeding and the impact in the cumulative dose of treatment.

DESIGN: A retrospective, comparative and non-blind cohort analysis.

MATERIALS AND METHODS: Sixty-four patients with a diagnosis of SLE between 18 and 39 years old were included. Serum levels of AMH were determined in patients and serum prolactin (PRL),thyroid stimulating hormone (TSH) and testosterone were measured in patients with SLE. Statistical analysis was made with the Mann-Whitney U test with a confidence interval of 95%.

RESULTS: The prevalence of irregular bleeding in patients with SLE was of 60%, being oligomenorrhea the most frequent etiology. Only 3 patients with SLE had a serum AMH level below 0.38 ng/dl. Four patients were diagnosed with endocrine pathology, 3 patients were found to receive high-dose steroids and 1 patient was diagnosed with Cushing's syndrome. There was no difference in AMH values in patients with and without irregular bleeding as well as the value of the cumulative dose of cyclophosphamide, corticosteroids and methotrexate. The cumulative dose of hydroxichloroquine was higher in patients with irregular bleeding than without them (265.21ng/mL vs. 254.5 ng/ mL, p=0.04).

CONCLUSION: No relationship was found between the cumulative dose of cyclophosphamide and amenorrhea, as well as in serum AMH values when both groups were compared. Endocrine diseases are frequent in SLE patients, and should be considered along with ovarian reserve tests when irregular bleedings are present.