REPRODUCTIVE ENDOCRINOLOGY/INFERTILITY
A Novel Counseling Tool: AMH as a Predictor of Oocyte Yield and Live Birth Rate (LBR) With Oocyte Cryopreservation (OC) [29M]
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INTRODUCTION: Methods for counseling women regarding candidacy for OC are limited. This study aims to provide a novel evidence-based tool to interpret serum AMH as a predictor of oocyte yield and LBR in non-infertile women considering OC.

METHODS: All OC cycles performed at Extend Fertility Medical Practice from 4/2016 through 8/2018 were included. The study was granted IRB exempt status. AMH levels were performed at an independent laboratory using Gen-II ELISA platform. Using published data, the number of oocytes needed for a 50% LBR were calculated per age group. ROC curves for each age group were used to select appropriate cutoffs based on accuracy and simplicity. Associations were made using X2.

RESULTS: 1385 cycles were included. Mean age at cycle start was 36.1+/-3.2. Median AMH 1.83 ng/mL [IQR 1.11-3.12]. Predicted 50% LBR was equivalent to 7 cryopreserved MII oocytes at ≥34, 9 at ≥35-37, 11 at ≥38-40, 20 at ≥41. ROC curve demonstrated good fit for AMH as a predictor of 50% LBR at each age group [AUC 0.80-0.86, P<0.001-0.016]. Suggested AMH to achieve a predicted 50% LBR with 1 cycle of OC are as follows: ≥34=1.25 [P<0.001, OR 4.14 CI 2.61-7.89]; ≥35-37=1.50 [P<0.001, OR 5.23 CI 3.67-7.44]; ≥38-40=1.75 [P<0.001 OR 7.97 CI 4.4-14.38]; ≥41=2.25 [P=0.002 OR 1.01-6.0].

CONCLUSION: Appropriate estimates of per cycle oocyte yield and predicted live birth rates based on age at cryopreservation are critical for enabling women to make informed decisions about their reproductive goals. These data provide a novel method with which to counsel women about their candidacy for OC.

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OBSTETRICS
Detecting Preeclampsia Using Data From a Pregnancy Mobile App [30M]
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INTRODUCTION: The objective was to create a predictive model for preeclampsia detection when app users do not report diagnosis or are not yet aware of their diagnosis.

METHODS: A supervised machine learning algorithm, specifically, a Gradient Boosting Decision Tree algorithm, incorporating data from 77,621 users of a mobile app was used to create a model for the purpose of detecting the presence of preeclampsia.

RESULTS: Of the total sample used to train the model, 41% had preeclampsia based on patient report of a diagnosis made by their clinician. The model used 385 different features to model the likelihood of currently having preeclampsia, even if disease status was not yet known or if diagnosis had not yet been reported in-app. Self-report data, as well as in-app calculations based on reported data, were used to create the model. The frequency of reported ‘daily data’ such as, health symptoms (e.g., fatigue and exhaustion, and blood pressure readings), mood, nutrition, and exercise activities were most influential to the model. Personal demographic information including age and BMI (height and weight) also contributed to the model. The model’s positive predictive value was 0.75, with 0.37 sensitivity. With a positive predictive value of 0.65, sensitivity increased to 0.79.

CONCLUSION: A model used to identify the presence of preeclampsia was most influenced by the frequency of data logging for specific features. This model could prove highly informative for patients, especially those without access to regular healthcare, as the presence of a serious condition could be identified, prompting referral to a healthcare provider.

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REPRODUCTIVE ENDOCRINOLOGY/INFERTILITY
Elabelix Improves Quality of Life Among Uterine Fibroids Patients With Heavy Menstrual Bleeding in Phase III Trials [31M]
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INTRODUCTION: Uterine Fibroids (UF) are associated with impaired health-related quality of life (HRQL). The impact of elagolix, an oral gonadotropin-releasing hormone antagonist, on the HRQL of women with heavy menstrual bleeding (HMB) associated with UF was evaluated.

METHODS: Premenopausal women aged 18 to 51 with HMB (>80 mL/cycle menstrual blood loss) associated with UF were enrolled in two replicate 6-months phase III placebo-controlled randomized clinical trials (Elaris UF-1, Elaris UF-2). Women were randomized in 1:1:2 fashion to placebo, elagolix 300mg twice daily (BID) and elagolix 300mg BID in combination with 1mg estradiol [E2]/0.5 mg norethindrone acetate (NETA) once-daily add-back therapy (BID+E2/NETA). HRQL was measured using Uterine Fibroids Symptoms Severity and Health-Related Quality of life questionnaire (UF-S-QOL) at baseline, months 3 and 6 of treatment. Changes from baseline in Symptom Severity (lower scores indicate lesser symptoms) and HRQL total scores (higher scores indicate better HRQL) were compared between elagolix arms and placebo using ANCOVA models controlling for baseline scores.

RESULTS: In Elaris UF-1, 102, 104, 207 patients were randomized to placebo, elagolix BID and elagolix BID+E2/NETA, respectively. At month 6, mean reduction in Symptom Severity scores was significantly larger for elagolix BID and elagolix BID+E2/NETA compared to placebo (-48.3, -33.2, -10.3; respectively p<0.001). Mean increase in HRQL total score was significantly higher for elagolix BID and elagolix BID+E2/NETA compared to placebo (47.5, 38.0, 10.9; respectively p<0.001). Similar results were observed in Elaris UF-2.

CONCLUSION: Elagolix + E2/NETA add-back reduces UF symptoms severity and improves HRQL among women with HMB associated with UF.

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ONCOLOGY
Use of a Targeted Lynch Syndrome Next Generation Sequencing Panel in Women at Risk for or With Endometrial Cancer [32M]
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