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North American Proceedings in Gynecology & Obstetrics

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1. IMPLEMENTATION OF A 12 WEEK PROGRAM TO OPTIMIZE FERTILITY THROUGH WEIGHT LOSS EDUCATION

Authors: Emily Stephenson MD[1], Holly Hodges[2], Neil Chappell MD, MSCI[3]

Affiliations: [1]Department of Obstetrics and Gynecology [2]Louisiana State University Health Sciences Center- Baton Rouge; Louisiana State University Health Shreveport, Shreveport [3]Fertility Answers, Baton Rouge

INTRODUCTION/BACKGROUND

Obesity is a widespread problem in the United States that has been correlated with multiple increased risks including infertility. Studies have shown that improvement in weight loss and overall health improve fertility. We designed a low cost, high impact program to try to optimize diet and lifestyle through education and accountability. The present study aims to describe the prospective implementation of the program and retrospectively survey participants' experiences and attitudes after referral to this program by a Reproductive Endocrinologist and Infertility (REI) provider.

METHODS

We conducted a retrospective telephone survey of all patients from a single site private practice fertility clinic that were referred to the Fertility Fitness Program (FFP) between July of 2020 through 2022 (n equals 102). The FFP consisted of a nutrition consult, 6 weeks of exercise coaching followed by 6 weeks of open gym, and weekly phone calls with a lifestyle coach. The responses from participants identifying barriers were analyzed using means/standard deviations and counts/frequencies to summarize population characteristics among survey respondents for continuous and categorical variables respectively. Counts/reasons for not enrolling in the Fertility Fitness Program were calculated among non-enrollees.

RESULTS

This is a group of 102 patients from a single site private practice fertility clinic who were offered enrollment in the FFP. Overall, despite attempts at decreasing barriers for patients, participation rates in the actual program remained low. Of the 102 patients who were contacted after being offered the program, 26 participated in our survey. Survey results for barrier to participation were as follows: 19 percent cost, 50 percent time commitment, 38 percent convenience, 8 percent transportation, 4 percent changed physicians, 23 percent program burden, 27 percent readiness for change, 11 percent support, 4 percent childcare.

CONCLUSION

Our findings affirm prior studies showing that participation in weight loss programs is extremely challenging, despite appropriate accommodations. In our study, time commitment was the most frequently experienced barrier to participation in a fitness program. The FFP was conducted during the COVID 19 pandemic which may have been further impacted our results and warrants further exploration.

2. LETROZOLE AS A TREATMENT OPTION ALTERNATIVE TO GNRH AGONIST AND LAPAROSCOPY IN BCL6 POSITIVE PATIENTS

Authors: Aimee Eyvazzadeh, MD, MPH; Lucia Santistevan, MD; Dan Angress

Affiliations:
(1) Dr. Aimee Eyvazzadeh, Inc., San Ramon, CA, USA and (2) Cicero Dx Inc, Huntington Beach, CA, USA

BACKGROUND

At our center, Dr. Aimee Eyvazzadeh Inc., we've used the ReceptivaDx™ (BCL6) test since 2017 for women with unexplained infertility (UI), recurrent implantation failure, and suspected uterine lining inflammation. Studies have shown that UI patients often over-express the BCL6 oncogene, which is typically linked to endometriosis.[1] Early pivotal studies revealed that untreated BCL6 positive patients had significantly lower live birth rates compared to those who tested negative (LBR = 11% vs. 59%).[2,3] However, when BCL6 positive subjects received treatment for endometriosis with a GnRH agonist suppression or laparoscopy, live birth rates significantly improved (52% vs. 8%).[3] Our retro-

spective cohort study has matched or exceeded these outcomes. Nevertheless, because not all patients tolerate Depot Lupron well, we also assessed the success of BCL6 positive patients treated with letrozole alone before transfer, for a comparison of outcomes.

OBJECTIVE

To evaluate the letrozole-only treatment effectiveness in BCL6 positive patients for pregnancy and live birth rates and compare it to recommended approaches in published studies and our clinical experience.

MATERIALS AND METHODS

In this retrospective cohort study, we analyzed 566 patients tested for BCL6 from 2017 to 2022. We gathered patient history, lab results, and treatment details. We focused on patients who transferred PGT-A euploid embryos and underwent either recommended treatments (Lupron or laparoscopy) or letrozole-only therapy. Negative BCL6 patients remained untreated. For the letrozole-only group, we included patients who didn't require, declined, or couldn't tolerate Lupron or laparoscopy. We administered either 5 mg of letrozole for 5 days or 5 mg of letrozole for 2 months before frozen embryo transfer, based on the patient's H-Score. Our main outcomes of interest were pregnancy and live birth rates in subsequent transfer cycles.

RESULTS

We conducted a proportional analysis using a z-test with a significance level of $\alpha = 0.05$ and a 95% confidence interval (CI) for pregnancy rates (PR) and live birth rates (LBR). Although we found no statistically significant variance in PR, the LBR comparison between Letrozole (47%, n1/n2 = 73/155) and the combined Laparoscopy and Lupron Depot group (58%, n1/n2 = 89/153) revealed a clinically significant difference of 11.1%.

CONCLUSIONS

In our practice, BCL6 positive patients treated with Laparoscopy or Depot Lupron achieved pregnancy rates and live birth rates well above the original prospective study rates of 51% and 61%, respectively[2]. The Letrozole-only group yielded effective results, but the live birth rate was statistically lower than the other two treatment methods. Conversely, the BCL-6 negative cohort displayed pregnancy and live birth rates consistent with the expected success rates for a single transfer cycle in women without suspected uterine lining dysfunction[2,3]. The high rate of mock cycle biopsies (77%) did not have a statistically significant impact on the success rates in terms of pregnancy rates or live birth rates[4]. This retrospective analysis supports an alternative treatment approach for women who choose not to undergo Lupron or laparoscopy before embryo transfer.

SUPPORT

Dan Angress is an employee of Cicero Diagnostics, the licensee of the ReceptivaDx test. Cicero Diagnostics supported the collection of the data shown.

3. WEBSITE MISSION STATEMENTS OF REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY FELLOWSHIP PROGRAMS: A CROSS-SECTIONAL STUDY

Authors: Stansbury N[1], Schenken C[1], Duican C[2], Schenken R[3]

Affiliations: [1]University of Texas Health San Antonio Department of Obstetrics and Gynecology, San Antonio, TX, USA, [2]Burnett School of Medicine, Texas Christian University, Fort Worth, TX, USA and [3]University of Texas Health San Antonio Division of Reproductive Endocrinology and Infertility, San Antonio, TX, USA

OBJECTIVE

To review reproductive endocrinology and infertility (REI) fellowship program websites to evaluate the presence and content of mission statements.

DESIGN

Cross-sectional study

MATERIALS AND METHODS

During January 2024 the websites of all Accreditation Council for Graduate Medical Education (ACGME)-accredited REI fellowships were examined to investigate the use and content of mission statements, which, based on the literature, were classified as a mission statement if they involved categories of mission, vision, virtue/value, aims, and goals.

RESULTS

All 49 programs (100%) were included. Overall, 20 programs (41%) used at least one of the five mission statement categories on their websites, while 29 programs (59%) used none. Programs used the category "mission" 65%, "aim" 30%, "vision" and "goal" 15% while none used virtue/value. The top 5 most commonly used words among all programs were: "research" 75%, "fellow" 75%, "infertility" 70%, "care" 65% and "reproductive endocrinology" 60%.

CONCLUSIONS

The creation of a clear, concise, and easy-to-find mission statement on the program website generates transparency and clearly states the program's vision. However, less than half of current fellowship programs are utilizing mission statements. Moreover, programs that do use mission statements use general terms that are common among pro-

grams. In a time of vastly virtual interviews with limited in-person connections and increasing applications, clearly stated and unique mission statements that facilitate a connection between like-minded applicants and programs are paramount and should be increased among ACGME-accredited REI fellowship programs

4. CAN REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY FELLOWSHIPS INCREASE INSTAGRAM UTILIZATION: A CROSS-SECTIONAL STUDY

Authors: Stansbury N1, Schenken C[1], Duican C[2], Schenken R[3]

Affiliations: [1]University of Texas Health San Antonio Department of Obstetrics and Gynecology, San Antonio, TX, USA, [2] Burnett School of Medicine, Texas Christian University, Fort Worth, TX, USA and [3] University of Texas Health San Antonio Division of Reproductive Endocrinology and Infertility, San Antonio, TX, USA

OBJECTIVE

To evaluate the utilization of Instagram in reproductive endocrinology and infertility (REI) fellowship programs.

DESIGN

Cross-sectional study

MATERIALS AND METHODS

In August 2023, all 48 REI fellowship programs were queried on Instagram along with the corresponding OB/GYN residency at each fellowship program. Program utilization of Instagram and the number of followers and posts during July 2022-2023 at each institution were recorded. Linear regressions and descriptive statistics were utilized for statistical analysis.

RESULTS

Ninety-eight percent of the REI fellowship programs had a corresponding residency program (n=47). Twenty-three percent of the REI fellowship programs had an Instagram page (n=11). However, 100% of the OB/GYN residencies with affiliated REI fellowship programs had a dedicated Instagram page. REI fellowship programs' Instagram followers ranged from 55-2620. The corresponding OB/GYN residency programs' Instagram followers ranged from 348-2554. Both REI programs and the corresponding OB/GYN resident Instagram pages demonstrated a positive correlation between the number of posts and the number of followers r=0.6704 and r=0.6144, respectively (Figures. 1 and 2).

CONCLUSIONS

Utilization of Instagram at REI fellowship programs is minimal with less than one-fourth of the current fellowship programs utilizing Instagram. However, each REI program's corresponding OB/GYN residency utilized Instagram. Furthermore, there is a positive correlation between the number of posts on each page and the number of followers. While starting an Instagram page from scratch might seem like a daunting task that a busy fellow may not want to undertake, every OB/GYN corresponding residency already has an Instagram platform. Therefore, current fellows could work with current OB/GYN residents and utilize their expertise in a collaborative effort to grow the REI fellowship Instagram platform to increase exposure and recruitment to REI fellowship programs.

5. EFFECT OF LETROZOLE IN OOCYTE YIELD AND MATURITY DURING CONTROLLED OVARIAN STIULATION FOR FERTILITY PRESERVATION

Authors: Siwon Lee, Chandra C Shenoy, Alessandra J Ainsworth A, Zaraq Khan

Affiliations: Division of Reproductive Endocrinology and Infertility, Dept. of Ob/Gyn, Mayo Clinic, Rochester, MN, USA

OBJECTIVE

To assess whether co-administration of letrozole to controlled ovarian stimulation (COS) to minimize supraphysiologic levels of estradiol (E2) in women with hormone sensitive breast cancer(BC) has comparable oocyte retrieval and oocyte maturity to COS without letrozle, without affecting the number of stimulation days.

DESIGN

Retrospective cohort study in a single academic affiliated fertility center

MATERIALS AND METHODS

Between January 2016 and September 2023, a total of 41 patients underwent COS-letrozole for fertility preservation due to hormone sensitive BC. Total 82 patients matched for age and body mass index who underwent COS for other causes were compared as a control group. Trigger criteria for control group was 1) the presence of two or more follicles measuring ⩾18mm and 2) when more than 50% of measurable follicles (defined as ⩾11mm) were measuring 15mm or above. For COS-letrozole group, trigger injection was given one day after the above trigger criteria were met. Primary outcomes were: oocyte yield (number of oocytes retrieved/number of follicles aspirated) and oocyte maturation rate (number of mature oocytes / number of oocytes retrieved). For statistical analysis, chi-square and binary lo-

gistic regression analysis were used to determine variables that affect outcomes.

RESULTS

Statistical differences were noted in anti-mullerian hormone, maximum E2, largest follicle size and total number of measurable follicles. Total number of follicles measuring 15mm or above and stimulation duration were significant determinant in univariable analysis for oocyte yield. However, after multivariable analysis, shorter stimulation duration was the only independent determinant for the number of oocyte yield (adjusted OR= 0.759, 95% CI: 0.594-0.971, p=0.028). Oocyte maturity was not affected by any of the determinants including total gonadotropin dose, stimulation duration, maximum E2 levels, largest follicle size, total number of measurable follicles or follicles measuring 15mm or greater.

CONCLUSION

Oocyte yield, maturity, and stimulation duration were similar between COS with and without letrozole, despite lower E2 level in COS-letrozole group. For COS-letrozole cycle, triggering one day after meeting regular trigger criteria can be a reasonable option.

SUPPORT

None

6. MISSED OPPORTUNITIES TO DECREASE CANCER RISK IN OFFSPRING? PATIENT UTILIZATION OF PREIMPLANTATION GENETIC TESTING FOR MONOGENEIC DISORDERS (PGT-M) IN CARRIERS OF CANCER PREDISPOSING VARIANTS

Authors: *Stephanie Willson, MD[1], Alie Corirossi, MS, LCGC[2], Kristie Hynniman AS[2], Stephanie Nunziato-Virga, MS, LCGC [2], Katie Caesar, MS, LCGC [2], Emily Umscheid, MS, LCGC [2], Jason Franasiak, MD^1 ^*

Affiliations: [1] IVI-RMA, Basking Ridge, New Jersey [2] GeneScreen Counseling, Bernardsville, New Jersey

OBJECTIVE

To evaluate PGT-M utilization in patients who underwent expanded carrier screening (ECS) and tested positive for genes associated with an increased risk of cancer in the heterozygous form

DESIGN

Retrospective cohort study of patients seeking fertility care at a single institution between January 2022-December 2022

MATERIALS AND METHODS

Patients who tested positive for at least one dominant cancer predisposing gene on ECS were included. Genes studied included those encoding for Ataxia Telangiectasia, Bloom Syndrome, Fanconi Anemia Complementation Group C, and Nibrin. Primary outcome was utilization of PGT-M in couples in the setting of carrier status of the above variants. Secondary outcomes included percentage of patients who tested positive for carrier status and percentage of couples who pursued IVF after result counseling.

RESULTS

A total of 2981 patients underwent ECS prior to starting treatment. Of those patients, 93 (3.1%) couples tested positive for at least one gene associated with an increased cancer risk. 46 (49.4%) of these couples pursued IVF after genetic counseling. A total of 3 (3.2%) couples pursued PGT-M for the newly identified variant prior to frozen embryo transfer. Of note, 4 couples (4.3%) who tested positive for a genetic variant described above were also found to be carriers for other mutations (GJB2-associated hearing loss and DiGeorge Syndrome). In these cases, patients elected to pursue PGT-M for these genes but not concomitant PGT-M for genetic variants found to increase cancer risk.

CONCLUSIONS

Patients seeking fertility treatment undergo extensive workup prior to initiation, including ECS to evaluate the risk of inherited disorders. In cases where couples test positive for genes associated with increased cancer risk, couples rarely utilize available tools to reduce the inheritance of this risk. Collaboration between genetic counseling and fertility teams is imperative prior to initiating fertility treatment.

SUPPORT

None

7. HIGHER PERCENT POSTWASH SPERM RECOVERY IS ASSOCIATED WITH INCREASED INTRAUTERINE INSEMINATION RATES

Authors: Rachel A. Licea, MD[1] , Megan R. Sax, MD[1], Morgan N. Wilhoite, DO[1], Sarah R. Shim, MD[2], Anthony C. Leonard, PhD[1], Jason St. Pierre, PhD[1]

Affiliations: *[1] Division of Reproductive Endocrinology and Infertility, Dept. of Ob/Gyn, University of Cincinnati, Cincinnati, Ohio, USA; [2] University of Minnesota, Minneapolis, MN, USA*

OBJECTIVE

To investigate whether the difference between prewash and postwash intrauterine insemination (IUI) total motile count

(TMC), defined as the percent postwash sperm recovery (PPSR), has an impact on pregnancy outcome.

MATERIALS AND METHODS

Using data from an IUI patient database, the TMC was compared in pre and postwash sperm specimens to calculate the PPSR. The primary aim was to evaluate whether PPSR was correlated with pregnancy rate. PPSR was predicted using five factors, both individually and then adjusted for: age, race, sperm preparation method (standard vs gradient), abstinence time, and couple's diagnosis. These factors, along with PPSR, were then used as predictors of pregnancy, using a PPSR cut-point of 28% (determined to be a critical threshold within the dataset). Individual predictors were evaluated using Chi square, Fisher's exact test, and Wilcoxon tests, while adjusted predictions were made using ANOVAs and logistic regression. The study alpha was two-tailed, $p<0.05$, unadjusted for multiple comparisons, and all analyses were conducted using SAS software.

RESULTS

A total of 101 patients underwent 135 IUI cycles. Positive pregnancy was documented in 26 cycles (19.3%). PPSR was shown to be positively associated with pregnancy rate, with a significantly increased likelihood of achieving pregnancy if the PPSR recovery was greater than 28% ($p=0.003$). Patients with a PPSR greater than 28% had a pregnancy rate of 35.9%, as compared to a pregnancy rate of 12.5% in patients with a PPSR less than 28%. Standard sperm preparation (rather than gradient preparation), increasing age, and shorter duration of abstinence prior to IUI were associated with elevated PPSR. When modeled together, these predictors remained significant. Race/ethnicity and couple's diagnosis were not significant predictors for PPSR. In predicting conception, shorter abstinence period and standard sperm preparation were associated with an increased pregnancy rate.

CONCLUSIONS

PPSR is a useful predictor for pregnancy rate among couples undergoing IUI and is significantly improved with decreased abstinence time and the use of standard sperm preparation.

8. ENHANCING PREGNANCY RATES WITH A DECISION SUPPORT TOOL: A MULTI-CENTER RANDOMIZED CLINICAL TRIAL

Authors: Urmila Diwekar, M.Tech., Ph.D.[a,b], Shyam Gupta, M.D [c], Anjali Gahlan, M.D. [d] , Nihar Bhoi, M.D. [e] Sumitra Hota [f], M.D[f], Sanjay Joag, M.D., Ph.D. [a].

Affiliations: [a] Stochastic Research Technologies LLC, Crystal Lake, Illinois, USA; [b] University of Illinois at Chicago, Chicago, Illinois, USA; [c] Indira IVF, Bangalore, Karnataka, India; [d] Indira IVF, Prayagraj, Uttar Pradesh, India; Indira IVF, Varanasi, Uttar Pradesh, India; [f] Indira IVF, Udaipur, Rajasthan, India.

OBJECTIVE

This study aimed to evaluate the effectiveness of a clinical decision support tool, Opt-IVF, in achieving the following outcomes: reducing the cumulative dosage and testing without compromising the outcomes.

DESIGN

The study design employed a Multi-center Randomized Trial.

MATERIALS AND METHODS

The study enrolled 115 women aged 25–45 years undergoing IVF. Among the participants, 55 were randomly assigned to the intervention group (Opt-IVF), and 60 were randomly assigned to the control group. The intervention involved using a clinical decision support tool, Opt-IVF, to guide Gonadotropin dosing and trigger dates for a personalized controlled ovarian stimulation cycle.

RESULTS

The participants in the intervention group required significantly lower cumulative gonadotropin dosage during their controlled ovarian stimulation cycles. The intervention group had higher numbers of oocytes retrieved and M2 oocytes retrieved than the control group. There was no significant difference between the total number of embryos between the intervention and control groups. The number of good quality blastocysts, the good blastocyst rate, the ovarian sensitivity index (OSI), and the pregnancy rate in the intervention group were significantly higher than in the control group.

CONCLUSIONS

The utilization of the clinical decision support tool led to several positive outcomes, including eliminating the need for ultrasound exams after day 5, reducing the dosage of gonadotropin required, and yielding significantly higher numbers of high-quality blastocysts and higher pregnancy rates. Thus, Opt-IVF can successfully provide a personalized, optimized, and simplified approach to superovulation. Opt-IVF consistently outperformed the clinical teams in all outcomes.

9. POLYCYSTIC OVARIAN SYNDROME (PCOS): WHAT'S THE THYROID GOT TO DO WITH IT?

Authors: Ayana Scott-Elliston MS, Rushi Patel BS, Katerina Poulos BSc, Violetta Florova, Lynn Westphal MD, Angie Beltsos MD

Affiliation: Kindbody, Chicago, IL USA

BACKGROUND

The intersection of PCOS, pregnancy loss, and thyroid dysfunction can pose a significant challenge in the reproductive health landscape for positive pregnancy outcomes. Based on the limited evidence to determine the interactions between endocrine disorders, this study will investigate the level of association between hypothyroidism and pregnancy outcomes in patients with PCOS.

OBJECTIVE

This retrospective chart review study aimed to evaluate the current American Society of Reproductive Medicine (ASRM) guidelines on whether we should treat PCOS patients who are TPO negative and have a TSH level of 2.5 - 4.0 as having subclinical hypothyroidism.

MATERIALS AND METHODS

The study included 418 PCOS patients, in which TSH levels, TPO antibody status, and pregnancy outcome data were collected. The inclusion criteria for a negative pregnancy outcome included having a biochemical pregnancy, ectopic pregnancy, any miscarriage regardless of whether a fetal heartbeat was detected or not, spontaneous abortion, still birth, therapeutic abortion, and vanishing twin while a positive pregnancy outcome included any in-progress clinical pregnancy (result of pregnancy not known), a live birth, and no pregnancy following an IVF procedure. Descriptive statistics were collected for all TPO antibody negative patients to assess the extent of correlation between negative pregnancy outcomes and hypothyroidism in PCOS patients.

RESULTS

The results of the study demonstrated TSH level could not adequately predict pregnancy outcome (Welch's $p = 0.687$) in PCOS patients. However, parity was an indicator for outcome (Welch's $p<0.001$, effect size = 0.913). In both healthy and subclinical hypothyroidism PCOS patients, recurrent pregnancy loss was greater than ASRM standards of 15 to 25% by two-fold.

CONCLUSION

Based on the results of the study, ASRM guidelines in regard to subclinical hypothyroidism in PCOS patients is insufficient. Future research should focus on biochemical markers and physical indicators directly tied to the uterus such as adhesions.

10. ATTITUDES, CONCERNS, AND PERCEPTIONS OF PATIENTS UNDERGOING FERTILITY TREATMENTS IN AN ABORTION RESTRICTIVE STATE IN THE AFTERMATH OF THE ROE V. WADE REVERSAL

Authors: *Mitra F. Sharifi, MD [a], Emily E. Spurlin, MD [b], Naazanene Vatan, MDHS [c], Hayley Quinones, BA [c], Kenan R. Omurtag, MD [b], Patricia T. Jimenez, MD [b]*

Affiliations: *[a] Department of Obstetrics and Gynecology at Washington University in St. Louis School of Medicine, St. Louis, Missouri, USA; [b] Department of Obstetrics and Gynecology, Division of Reproductive Endocrinology and Infertility at Washington University in St. Louis School of Medicine, St. Louis, Missouri, USA; [c] Washington University in St. Louis School of Medicine, St. Louis, Missouri, USA*

OBJECTIVE

To investigate the abortion views and reproductive concerns of current *in vitro* fertilization patients after the U.S. Supreme Court *Dobbs v. Jackson* decision, which overturned the *Roe v. Wade* decision guaranteeing abortion access.

DESIGN

A cross-sectional survey.

MATERIALS AND METHODS

English-speaking patients undergoing *in vitro* fertilization from January to November 2022 at a large academic institution in a state with restricted abortion care were surveyed. Participants completed a 43-question electronic survey which measured feelings about abortion, future fertility treatments, and embryo disposition. Ordinal data were analyzed via Mann-Whitney Wilcoxon testing, and responses were compared with a Fisher exact or chi-square test as appropriate. Free text responses were evaluated by inductive thematic analysis.

RESULTS

Of 543 eligible patients, 267 (49%) consented to participate in the study when called and were sent the survey. Of those, 180 (67%) completed it, resulting in a total completion rate of 33%. The majority believe abortion should be legal in the case of birth defects (90.8%) or rape or incest (90.3%). A significant proportion (91.4%) expressed concerns about abortion being illegal in the state that they receive infertility care. They reported some concern about making embryos (89.6%), controlling what happens to them (95.4%), and discarding them (94.4%). Patients wrote about their concerns with pursuing fertility treatments, fear of not having access to needed medical care, and the desire to remain close to states with less restrictive abortion laws.

CONCLUSIONS

The evolving political landscape surrounding access to reproductive care has created significant concerns regarding legal regulation of these treatments and the disposition of embryos. By understanding patients' concerns, health care providers can more effectively advocate for the protection of fertility treatments and patients' autonomy in embryo disposition.

11 LUTEINIZING HORMONE SURGE IN THE ABSENCE OF A DOMINANT FOLLICLE DOES/ DOES NOT AFFECT LIVE BIRTH RATES IN PROGRAMMED FROZEN EMBRYO TRANSFER CYCLES

Authors: *Alexa Chanos*[1]*, Tyler Soy*[2]*, Julie Rhee*[2]*, Jimin Ding*[3]*, Violet Klenov*[2]*, Roohi Jeelanie*[2]

Affiliations: [1] Mercy Hospital, St. Louis; [2] KindBody; [3]Washington University, St. Louis

OBJECTIVE

This study was designed to evaluate whether a luteinizing hormone (LH) surge, defined as LH >15mIU/mL, in the absence of a periovulatory follicle, has a deleterious effect on programmed frozen embryo transfer (FET) cycle outcomes.

DESIGN

This was a retrospective cohort study that included patients who underwent a programmed FET cycle at a large, private, multicenter clinic from January 2020 through December 2022.

MATERIALS AND METHODS

Patients under the age of 35, undergoing their first frozen embryo transfer cycle with a single blastocyst were included in this study. Patients using preimplantation genetic testing (PGT) and donor oocytes or donor embryos were also included. Patients undergoing a natural FET cycle or a day 3 embryo transfer were excluded. Statistical analysis was performed using Pearson's Chi-squared test. A logistic regression analysis was performed to control for confounders. Our primary outcome was live birth rate (LBR). Secondary outcomes included no pregnancy, miscarriage, biochemical pregnancy, ectopic pregnancy, and stillbirth.

RESULTS

482 patients met the inclusion criteria. Of those, 19 patients experienced an LH surge >15mIU/mL and 463 did not. There was no difference in the live birth rate among those with an LH surge and those without (57.8% vs. 55.6%, p = 0.81). No statistical difference was observed in the secondary outcomes analyzed in the study. A logistic regression model was used to control for age, BMI, primary infertility diagnosis, embryo grade, and PGT. LH surge did not impact the live birth rate after controlling for confounders (p = 0.39).

CONCLUSIONS

We found no significant difference in live birth rates in programmed FET cycles in patients with an LH surge in the absence of a dominant follicle compared to patients without an LH surge. Our data support limiting serum testing of LH in the absence of a dominant follicle in women undergoing a programmed FET cycle.

12. UTILITY OF ROUTINE HYSTEROSCOPY DILATION AND CURETTAGE IN INFERTILITY PATIENTS AT TIME OF SURGICAL TREATMENT OF ENDOMETRIOSIS

Authors: Sebastian Geraci, DO, Devkartik Anne, Esra Demirel, MD, and Dr. Farr Nezhat, MD,

Affiliation: New York University Grossman Long Island School of Medicine

OBJECTIVES

To determine the utility of routine hysteroscopy dilation and curettage (D+C) at the time of surgical treatment of endometriosis among infertility patients.

DESIGN

Retrospective cohort study of infertility patients aged 18-45 undergoing surgical treatment of endometriosis and hysteroscopy D+C at a tertiary care hospital between 1/2015 to 06/2023.

MATERIALS AND METHODS

Utility of routine hysteroscopy D+C was analyzing through association of D+C findings with preoperative imaging findings, stage of endometriosis, and infertility types (primary versus secondary). Statistical analysis utilized chi-square and Fisher's exact tests in SAS version 9.4. Results were presented as number of subjects and percentages. Statistical significance was $P < 0.05$.

RESULTS

93 total infertility patients were identified who underwent laparoscopic or robotic treatment of endometriosis and concurrent hysteroscopy D+C. Of 93 patients, 53 (57.0%) had primary infertility and 40 (43.0%) had secondary infertility. 19 (20.4%) patients had positive pre-operative imaging findings, 25 (26.9%) had gross hysteroscopy findings, and 43 (46.2%) had positive D+C pathology. 68 patients had hysteroscopic and/or D+C pathology findings. Endometrial polyps were the most common pathology (78.6%). D+C pathology did not differ among stage of endometriosis (p

= 0.319). Of 19 patients with positive pre-operative uterine imaging, 11 (57.9%) patients had positive hysteroscopy findings. A significant association was noted between pre-operative imaging and gross hysteroscopy findings ($p < 0.0001$), however no association was noted between pre-operative imaging and postoperative uterine pathology findings from D+C ($p = 0.184$).

CONCLUSIONS

Endometrial pathology is commonly found on hysteroscopy D+C in infertility patients diagnosed with endometriosis. Although there was significant association between preoperative imaging and gross hysteroscopic findings, there was no significant association between pre-operative imaging findings and D+C pathology findings. Stage of endometriosis was not associated with intrauterine pathology.

13. TRENDS IN TEEN BIRTH CONTROL USE AND LIVE BIRTHS ACROSS 35 OF AMERICA'S LARGEST CITIES FOR THE YEARS 2010 - 2021

Authors: Gabriel Vizgan, MS, MBA; Yelizabeta Skorokhod; Natalie Cipriano; Julian Sherman, MS

INTRODUCTION

This project aims to examine the percent of teens that had used some form of birth control during their last sexual encounter as well as the number of live births in females aged 15 to 19 in America's 35 largest cities between the years 2010 and 2021 and attempt to corelate these trends to public health policy and programs in the studied areas.

METHODS

Data was gathered by the CDC and stratified by year, city, state, region, poverty level, citypopulation, city population density, and city segregation.

RESULTS

The average number of live births per 1,000 female teens aged 15 to 19 has decreased from 45 in 2010 to 20 in 2021. In poorer cities, Hispanic female teens had the most live births out of all studied races (57 per 1000 females), and in less poor cities African American teens had the most live births (40 per 1000 females). Teen birth control use had increased, on average, across all studied cities during this time period, but is still only at around 10%.

CONCLUSION/IMPLICATIONS

As some populations have experienced better trends in these metrics than others, it is imperative for practitioners to be aware of these tendencies so that they may take the social and cultural identities of their patients into account in their respective practices, and when rallying for new legislation. By analyzing these cities, public health policy and programs that both are and are not effective can be identified and act as a model for the rest of the country.

14. CARDIOVASCULAR EVENTS ASSOCIATED WITH ENDOMETRIOSIS AND UTERINE LEIOMYOMAS

Authors: Mobaraki A[1]; Missmer SA[2]; Estes SJ[3]; Wise LA[4]; Kuohung W[5]; Chiuve SE[6]

Affiliations

1. Department of Obstetrics and Gynecology, Division of Reproductive Endocrinology and Infertility, Penn State Health, Hershey, PA USA
2. Department of Obstetrics, Gynecology and Reproductive Biology, Michigan State University, Grand Rapids, MI, USA
3. Department of Obstetrics and Gynecology, Division of Reproductive Endocrinology and Infertility, Penn State Health, Hershey, PA USA
4. Department of Epidemiology, Boston University School of Public Health, Boston, Massachusetts, USA
5. Department of Obstetrics and Gynecology, Boston University School of Medicine, Boston, Massachusetts, USA
6. AbbVie Inc, N Chicago, IL USA

OBJECTIVE

To examine the effect of endometriosis and uterine fibroids on risk of VTE, MI, and stroke among premenopausal females.

DESIGN

Using administrative health claims data (Optum Clinformatics™ DataMart; study period 2005-2019), we carried out two parallel retrospective cohort studies. We constructed two separate cohorts of premenopausal females aged <50 years without hysterectomy: one cohort with endometriosis and one cohort with fibroids.

MATERIALS AND METHODS

In each respective cohort, participants were matched (1:1) to participants without endometriosis or fibroids on age and time enrolled in insurance plan. We used standardized mortality ratio (SMR)-weighted Cox proportional hazards regression to estimate hazard ratios (HR) and 95% confidence intervals (CI) for the association of endometriosis and fibroids, separately, with VTE, MI, and stroke, adjusting for patient demographics, pharmacotherapy, reproductive history, medical history and medical/pharmacy costs.

RESULTS

The endometriosis cohort included 83,078 matched pairs followed for 1.07 years (median) with 115, 18, and 36 cases of VTE, MI, and stroke, respectively. The fibroid cohort in-

cluded 274,833 matched pairs followed for 1.08 years and 557, 132, and 244 cases of VTE, MI, and stroke, respectively. Median age at baseline was 35 and 42 years for the endometriosis and fibroid cohorts, respectively. The HRs (95% CI) comparing women with and without endometriosis were: VTE 0.97 (0.55, 1.71); MI 1.23 (0.52, 2.91); and stroke 0.76 (0.40, 1.44). The HRs comparing participants with and without fibroids were: VTE 2.41 (1.89, 3.07); MI 1.19 (0.86, 1.66); and stroke 1.39 (1.06, 1.82). The magnitude of association was similar when we used alternative disease classification and censoring approaches.

CONCLUSIONS

We observed greater risk of VTE and stroke among premenopausal females with a history of fibroids but not endometriosis. Neither gynecologic condition was appreciably associated with MI.

Financial Support: This study was funded by AbbVie Inc, N Chicago, IL USA.

15. CONSIDERATIONS FOR REPRODUCTIVE PRACTICES ON MANAGING DOMINANT DISEASE RISKS FROM CARRIER SCREENING

Authors: Pamela Callum MS, Regine Lim, MS, Rachel Mnushkin MS

Affiliation: Tandem Genetics

OBJECTIVE

To evaluate how autosomal dominant (AD) risks are reported on carrier screening reports.

DESIGN

Carrier screening increasingly identifies genes and variants known to contribute to AD risks. We assessed result reports to determine how such risks are reported to consider the impact on patient care and clinical operational needs.

METHODS

Carrier screening results performed on women referred for a reproductive risk assessment between May-December 2023 were assessed to identify if they tested positive for genes that cause AD disease and if these risks were reported on the results.

RESULTS

Results for 117 women were reviewed, including 11 panels from 6 laboratories, covering over 175 conditions. 22 (19%) women screened negative for all conditions. 95/117 had at least one positive finding. 38/95 (40%) had a finding in a gene for which some genetic variants are also known to be causative of or susceptibility factors for AD conditions. Significant variability existed as to whether such risks were written on carrier screening reports at all, and if they were reported visibly at the top of the report or less visibly in the finer details. Variability was also noted in reporting between labs and may be determined on a variant level by some labs.

DISCUSSION

Clinicians need to understand how reference labs report these risks, and if post-test counseling addresses such risks, the opportunity for PGT-M, use of a gamete donor, adoption, and other treatment options. Additionally, ordering providers may have a duty to communicate these results to the patients' primary providers for follow-up screening and management.

Pre-test education and informed consent is critical prior to carrier screening to ensure that individuals tested are aware of these potential findings and the possible implications such as life insurance eligibility and impact on their own health management.

CONCLUSION

Reporting of variants that may have health implications for carriers varies amongst laboratories. Pre-test genetic counseling, independent post-test counseling, and workflows to help manage clinical needs are critical adaptations to the changing carrier screening landscape.

16. RETRIEVAL OUTCOMES IN PCOS PATIENTS UNDERGOING DUOSTIMULATION

Authors: C. Barkho, K. Poulos, M. Hani, L. Westphal MD, A. Beltsos MD, R. Jeelani MD

Affiliations: Kindbody, Chicago, IL & St. Louis, MO USA

OBJECTIVE

This study sought to investigate patients diagnosed with Polycystic Ovarian Syndrome (PCOS) and the effects of fertilization rates and risk of Ovarian Hyperstimulation Syndrome (OHSS) when undergoing stimulation of the ovaries in the follicular phase followed by luteal phase.

DESIGN

Retrospective chart review at a private multi-site infertility center.

MATERIALS AND METHODS

All IVF cycle outcomes were reviewed for patients who received treatment between January 2023 and December 2023. Patients were split into two groups, those who were diagnosed with PCOS and patients without a diagnosis of PCOS. Data on the number of eggs retrieved and fertilized was collected and analyzed to determine if there were any differences between the follicular and luteal phases in those diagnosed with PCOS and those without a PCOS diagnosis. Data was also analyzed to verify if patients with

PCOS undergoing the duostim protocol had to undergo a culdocentesis due to hyperstimulation. T-tests and confidence interval analysis were used to analyze the data.

RESULTS

A total of 56 patients were included in the study. Fertilization rate of the follicular phase and luteal phase of patients with PCOS was 0.512 and 0.505, respectively. Fertilization rate of the follicular phase and luteal phase of patients without PCOS was 0.433 and 0.464, respectively. There were no statistically significant differences in fertilization rates in the follicular and luteal phases between these groups ($p > .05$). Out of the 21 patients diagnosed with PCOS, only 1 had OHSS, necessitating a culdocentesis procedure.

CONCLUSIONS

Preliminary data showed no statistically significant difference in fertilization rates in the follicular and luteal phases between individuals with and without PCOS. These results are encouraging for patients that are hesitant in undergoing duostimulation, with the concern that it would affect their IVF outcome as well as cause OHSS. While ovarian hyperstimulation stands as a risk in IVF treatment, these results show that it is possible for patients with PCOS to undergo duostimulation. With more individuals undergoing the duostimulation protocol, further research on fertilization outcomes in relation to PCOS patients is needed.

17. CERTIFIED FERTILITY GYNECOLOGIST (CFG) PROCEDURAL PERFORMANCE IMPACT ON REPRODUCTIVE OUTCOMES BASED ON A NOVEL CERTIFIED FERTILITY GYNECOLOGIST (CFG) PROGRAM AT A MAJOR IVF PROGRAM IN THE U.S.

Authors: Paul C Magarelli, MD, Ph.D. and Angelina Beltsos, MD

Affiliation: Kindbody, USA

STUDY QUESTION

Report on the progress and performance of candidates in a Novel Certified Fertility Gynecologist (CFG) program.

SUMMARY ANSWER

Six candidates started the 12-month program and 5 completed the 6-month didactics section and are currently completing their 6-month proceduralist training. When compared to board certified reproductive endocrinologist and infertility specialist performance in retrieving eggs and creating pregnancies from embryos transfers, CFGS demonstrated no inferiority in outcomes. Mentors and direct one on one REI instructors were used to augment simulator training on an Embryo transfer simulator (VirtaMed) and in-OR monitoring and guidance to train and follow CFG progress. A significant increase in practice income and efficiencies were noted with the inclusion of the model "CFG's" in our active IVF program (~4000 ART cycles per year).

WHAT IS KNOWN ALREADY

There is an urgent need for trained REIs for IVF programs in the US that are not being filled by our university-based Fellowship programs. This is the result of the decline in training programs positions and the rapid uptick of new IVF clinics being created by large corporations as well as the trained REIs each year match those REIs that are retiring from practice. The need is there, however the impact of the trained augmentative physicians as board certified Ob/Gyn's performance is unknown.

STUDY DESIGN

Six candidates, all board-certified Ob/Gyns, volunteered to be part of the Institutes CFG program. It consisted of a 60-hour comprehensive synchronous virtual didactic program, a mentor/mentee assignment, and 12 months of direct training in ART procedures utilizing the VirtaMed™ embryo transfer simulator and live patients (currently in month 10 at time of submission). The program was created via a relationship with a university to allow for external, unbiased diploma certification and CME accreditation. Criteria for successful embryo transfer simulations utilizes ASRM guidelines. Utilizing our on-site EMR and data acquisition software, each REI and CFG's performance as Doctor of Service were measured. Measurements included patients' demographics, ID, number of total follicles measured on last ultrasound prior to retrieval, number of follicles 15 mm and over (as surrogate for mature follicles), number of eggs retrieved, as well as information about embryo transfers, and pregnancy outcomes performed by either REI or CFG.

METHODS

The setting was a busy IVF center in Chicago with 4 onsite REIs doing over 2500 retrievals and 1100 transfers annually. Data from the financial component of the EMR was used to parse the impact of a "CFG" performing egg retrievals, embryo transfer, endometrial biopsies, and hysteroscopies (which are the dominate procedure done in the center). There were 6 mentors assigned, one per candidate in cohort 1.

RESULTS

Based on subset of 2023 data repersenting CFG particiapiotno, average number of eggs retreived per follicle measured and number of eggs retrieved per "mature 15 mmm or greater follicles) follicle" were non-inferior between the REIs and CFGs at this locatio (Figure 1 and Table 1). Embryo transfer success were also found to be similar between the REI and CFGs (Figure 2 and Table 2).

DISCUSSION

In our previous abstract (PCRS 2024), we found that an average of 2 additional egg retrievals/day, similar embryo transfers/day and 1 additional surgical procedure/day were noted when the CFG was present on that day as one of the doctors of the day. Financially, this translated to a monthly increase in productivity of 18% for new patient consult revenue/day and 9% increase in IVF retrieval revenue/per day.

In our following abstract (ESHRE 2024 submitted) we found that training and knowledge acquisition was noteworthy, with average didactic scores on the 100-question exam over 90% and embryo transfer simulation scores were quantified with improvement in velocity of transfer; reduction in hitting fundus; and reduction of reentry into the internal os with external catheter. Most significantly, there was an improvement in placement in the "ideal" transfer zone.

In this study, numbers of eggs retreived per follicle measured and number of eggs retrieved per "mature 15 mmm or greater follicles) follicle "were simliar between the REIs and CFGs at this locaiton. Embryo transfer success were also found to be similar between the REI and CFGs all suggesting that the inclusiong of CFG in a IVF practice will results in a non-inferiority outcomes for performance and previously demonstrated marked increase in productity of the IVF clinic itself. This and prior studies suggest, CFG may be a viable option to provide additional proceduralisit in IVF centers.

18. EMBRYO NON-SURVIVAL TO WARMING IS ASSOCIATED WITH REPRODUCTIVE POTENTIAL OF THE ENTIRE COHORT

Authors: Andres Reig, Marie Werner, Paul A. Bergh

Affiliations: IVIRMA New Jersey, Basking Ridge, NJ

OBJECTIVE

Embryo warming after cryopreservation is remarkably successful, yet it is not uncommon for an embryo to not survive this process. Whether this phenomenon is confined to the blastocyst itself or due to factors affecting the entire cohort remains uncertain. This study seeks to elucidate whether blastocysts from cohorts in which a blastocyst does not survive the warming process have a decreased reproductive potential.

DESIGN

Retrospective cohort study involving all frozen, single, euploid embryo transfers (FET) at a private reproductive center between 2012 and 2022.

MATERIALS AND METHODS

FETs were categorized as having non-survival (NS) if at least an embryo in the cohort did not survive warming, regardless of which FET attempt this happened in. If all embryos survived the warming process, they were grouped as all-survival (AS). Age, BMI, and endometrial thickness were similar in both groups and were not adjusted for. Implantation rate (IR), clinical pregnancy rate (CPR), live birth rate (LBR), and biochemical loss rate were evaluated per FET via Fisher's exact test and odds ratios (OR) calculated. To address the confounder of patients with worse outcomes - and thus more transfers - also having a higher opportunity for non-survival, only the outcomes of the first FET per patient were analyzed. Similarly, to account for the effect of the non-survival on the outcome of the transfer being performed the same day, transfers were recategorized and deemed NS only if the embryo being thawed for that specific transfer attempt did not survive (all transfers in which the embryo survived the thaw were deemed AS, regardless of the outcome of other attempts from the same embryo cohort). The analyses were then repeated.

RESULTS

21,675 FET from 14,901 cohorts and 12,838 patients were analyzed. 203 embryos (0.9%) did not survive warming, resulting in 345 embryo cohorts (2.3%) being categorized as NS. IR was significantly higher in transfers from AS cohorts (OR, 95%CI: 1.5, 1.2 – 1.9; $p < 0.001$), and this difference continued into CPR (1.6, 1.3 – 2.0; $p < 0.0001$), and LBR (1.3, 1.1 – 1.6; $p < 0.05$). The rate of biochemical pregnancy loss was significantly lower for the AS group (0.6, 0.5 – 0.8; $p < 0.01$). These differences persisted and were similar when analyzing only the outcomes of the first embryo transfer for each patient. In evaluating the outcomes only by whether an embryo did not survive the thaw during the present transfer attempt, all previously observed differences were not significant.

CONCLUSIONS

Cohorts in which an embryo does not survive warming demonstrate lower likelihood of implantation, clinical pregnancy and live birth. The fact that this difference is maintained when analyzing only first embryo transfers and disappears when analyzing same-attempt embryo transfers suggests a biological underlying etiology rather than a laboratory origin of these decreased success rates. This information may be used to counsel patients and to support decision making as to whether a new cohort of embryos should be produced before continuing embryo transfer attempts.

19. COULD RAPID THAW LAB TECHNIQUES BE A RAPID SUCCESS?

Authors: Katerina Poulos, Heidi Hausermann, Emmanuel Magno, Harold Rodriguez, Roohi Jeelani, Angie Beltsos

Affiliation: Kindbody, Chicago, IL USA

Results

MOUSE EMBRYOS	Total Thawed	Survived	Survival Rate	2 hours Expanding	24 hours Expanding/ Hatched	Degenerated
Fast Thaw Method	30	29	96.7%	29	20	1
Standard Thaw Method	7	6	85.7%	5	5	1

HUMAN EMBRYOS	Total Thawed	Survived	Survival Rate	2 hours Expanding	24 hours Expanding/ Hatched	Degenerated
Fast Thaw Method	93	93	100%	93	89	4

BACKGROUND

In the realm of IVF laboratories, traditional embryo thawing methods are known to be time-consuming, often requiring up to ten minutes. However, emerging technologies such as rapid thawing have offered potential solutions to this issue. Implementing a novel thawing technique, which significantly reduces thawing time to one minute and utilizes embryos donated for research, alongside mouse embryos, this study aims to evaluate the efficacy of this new technique for use within our labs. The expedited thawing process not only enhances efficiency but also allows for the optimization of procedural timelines, thereby potentially increasing patient support and treatment opportunities.

OBJECTIVE

To investigate the effectiveness of new and faster thawing techniques in in-vitro fertilization labs.

DESIGN

An observational study was conducted at a private, multisite fertility center on mice embryos and donated human embryos for the purpose of this study.

MATERIALS AND METHODS

Methods began on 30 mouse embryos for the fast thaw and 7 mouse embryos for the standard thaw. The purpose of using the mouse embryos was to establish success before using human embryos. Once success was established within the mouse embryos, then the study proceeded to using the donated human embryos. The 93 embryos were thawed and monitored for growth.

CONCLUSIONS

Our average frozen embryo transfer (FET) survival rate is 99% using the standard method, and results show that for these 93 embryos that were thawed using the rapid method, there was a 100% survival rate. Both warming techniques demonstrate comparable outcomes, underscoring their effectiveness without sacrificing success rates. The Kindbody West Loop location performed 1495 embryo thaws, for FET, using the ten minute method in 2023. Reducing this to a one minute protocol could optimize lab efficiency potentially by a ten fold.Thus, ongoing efforts to refine laboratory practices and procedures are imperative to further optimize patient care and treatment outcomes.

20. HYSTEROSCOPIC RESECTION OF A PERSISTENT CESAREAN SCAR PREGNANCY AFTER FAILED MEDICAL MANAGEMENT

Authors: Lena T. Do, BS[1], Heather R. Burks, MD[2], Pardis Hosseinzadeh, MD, MS[3]

Affiliations: [1] University of Oklahoma College of Medicine, Oklahoma City, OK

[2] Division of Reproductive Endocrinology and Infertility, Department of Obstetrics and Gynecology, University of Oklahoma Health, Oklahoma City, OK

[3]Division of Reproductive Endocrinology, Department of Obstetrics and Gynecology, Johns Hopkins Medicine, Baltimore, MD

OBJECTIVE

To report a case and add to the body of evidence of techniques and outcomes of treatments for cesarean scar pregnancy (CSP)

DESIGN

Case report and literature review

MATERIALS AND METHODS

Presentation of a case of hysteroscopic resection following failed medical management and a systemic review of the literature for articles related to interventions for CSP.

RESULTS

We report the case of a 30-year-old woman, gravida 2 para 1001 with CSP diagnosed by ultrasound (US) at 6 weeks

3 days gestation, referred for failed medical management with a persistent fluid collection measuring 5.0cm in size within a low transverse cesarean scar. She had received a second course of methotrexate and serial human chorionic gonadotropin (HCG) levels were followed until negative HCG was confirmed 4 months after diagnosis. The mass persisted, so to resolve CSP and preserve fertility, mechanical hysteroscopic tissue removal and concurrent laparoscopy to avoid perforation was undertaken but was discontinued once the maximum fluid deficit was reached. Diagnostic flexible hysteroscopy subsequently confirmed the presence of residual tissue. Repeat hysteroscopy with loop resectoscope achieved complete resolution of CSP, and she conceived in a natural cycle 3 months post procedure with intrauterine implantation confirmed by US at 5 weeks 2 days gestation, resulting in live birth. Review of the literature showed published case reports of hysteroscopic resection of CSP vary by resection method and variably utilize laparoscopy, with generally successful resolution and low complication rate [about 18.4% (1)].

CONCLUSIONS

Hysteroscopy with resectoscope is an effective treatment modality for CSP with persistent gestational sac after medical management that meets the patient care aims of prompt resolution, low reported postoperative complications, and preserved fertility.

21. THE EFFECTS OF PRECONCEPTION ANTIOXIDANT NUTRIENTS ON SPERM QUALITY IN PATIENTS WITH MALE FACTOR INFERTILITY: A PROSPECTIVE STUDY

Authors: [1]*Kristen Di Stefano*, [2]*Jennifer Fitzgerald,* [2]*Tracy Malone,* [3]*Dan Nayot*

Affiliations: [1]Bird&BE, Toronto, CA, [2]Conceive Health, Toronto, CA, [3]Reproductive Care Centre, Mississauga, CA

OBJECTIVE

To assess repeat semen analysis results after a 90-day course of a preconception antioxidant nutrients in patients with male factor infertility.

DESIGN

Prospective experimental single-arm study.

MATERIALS AND METHODS

Patients with male factor infertility, exhibiting at least one abnormal semen analysis (SA) parameter (concentration < 15 million/ml, progressive motility < 32%, or morphology < 4% based on strict criteria) were recruited from a single fertility clinic to take a 90-day course of a preconception nutrient complex. All SA were completed in a single fertility clinic andrology lab. Exclusion criteria included smoking, diagnosed varicocele, or use of other nutrient regimens. Statistical significance and effect sizes were assessed using paired samples *t*-tests and Cohen's *d*. The study was IRB approved (Veritas 3048-13224-1).

RESULTS

Comparisons between baseline and post-treatment SA for the first 23 participants, showing the time between tests averaged 157.2±39.6 days. There was a significant 52.2% improvement in progressive motility (t (22) = 2.11, p = .046, d = .64), with total motility and morphology increases of 35.4% and 29.6%, respectively, though the latter was not statistically significant. Mild side effects reported included bright yellow urine (26.1%) and nausea (13%) if taken without food.

CONCLUSIONS

A 90-day course of preconception antioxidant nutrients showed a significant improvement in progressive motility and positive trends in total motility and strict morphology.

SUPPORT

The Bird&Be Company.

22. THE USE OF HIGH DOSE LETROZOLE FOR CONTROLLED OVARIAN HYPERSTIMULATION WITH INTRAUTERINE INSEMINATION

Authors: MacKenzie Ladsten RN and GG Collins MD

OBJECTIVE

Letrozole, an aromatase inhibitor was approved in 1997 for the treatment of breast cancer and has been used off label for ovulation induction since around that time. The timing and dosing were extrapolated from clomiphene citrate and from postmenopausal women being treated for breast cancer, and has since been challenged. The standard for letrozole is generally 2.5-10mg for 5 days. The goal of this study was to determine if increased doses of letrozole result in higher pregnancy rates in patients undergoing intrauterine insemination (IUI).

DESIGN

Retrospective chart review

MATERIALS AND METHODS

A retrospective chart review of 1,554 IUI cycles was performed at a single private practice institution between January 2018 and December 2019. Patients with all diagnoses and doses were included in the review. Ages ranged from 23 to 47 years of age.

RESULTS

The study yielded a 7.1% pregnancy rate and a 5.8% live birth rate for all patients undergoing IUI. The patients included received letrozole doses of 2.5mg, 5mg, 7.5mg, 10mg, or 12.5mg for 5-19 days. During the study period, there were 2 sets of twins and one resulted in a miscarriage and 1 triplet gestation that was reduced to twins. The pregnancy and live birth rates 5mg, 7.5mg, 10mg, and 12.5mg were 0% for 2.5mg, 7.4%/3.7% for 5mg, 10.2%/8.0% for 7.5mg, 8.1%/7.2% for 10mg, and 6.4%/5.3% for 12.5mg of letrozole. The endometrial thickness did not appear to be affected by the dose of letrozole as the median thickness was 7.8mm (range: 3.1mm-21mm). The number of follicles 15mm or greater on cycle day number 11 ranged from 1 to 6, with the median number of 2 follicles.

Conclusion: Letrozole in higher doses than conventionally used may be an option for patients who do not respond to the lower doses without a detrimental effect on the endometrial thickness. However, given the pregnancy rates were highest at the 7.5mg dose there may also be a detrimental effect with a higher dose. This is difficult to ascertain as the higher doses were likely given to poorer prognosis patients. A randomized trial comparing high-dose and low-dose letrozole and for specific diagnoses would be beneficial to determine the optimal dose and timing for letrozole.

23. RACIAL DISPARITIES IN ACCESS TO AND USE OF ELECTIVE OOCYTE CRYOPRESERVATION ARE ALLEVIATED IN THE SETTING OF COMPREHENSIVE FERTILITY INSURANCE COVERAGE

Authors: Katherine Koniares MD[1,2], Melody So MD[2], Prachi Godiwala MD, MSCTR[1,2]

Affiliations: [1]*The Center for Advanced Reproductive Services, Farmington, Connecticut* [2]*Department of Obstetrics and Gynecology, UConn Health, Farmington, Connecticut*

OBJECTIVE

To investigate if patients of racial minorities who initiate treatment for elective fertility preservation are 1) less likely to have insurance coverage for elective oocyte cryopreservation (EOC), 2) complete fewer EOC cycles, and 3) cryopreserve fewer mature oocytes than Caucasian patients.

DESIGN

A retrospective cohort study was performed at a private practice in a state with a comprehensive infertility insurance mandate.

MATERIALS AND METHODS

Electronic medical records of all patients completing EOC between January 2013 and March 2023 were reviewed. Extracted data included patient identified race, insurance coverage vs self-pay, age at first controlled ovarian hyperstimulation (COH) cycle, number of COH cycles completed, and total number of mature oocytes cryopreserved from all completed cycles. Chi-square and Student's t-test were performed in Minitab v21 with $P<0.05$ considered significant.

RESULTS

222 unique patients completed 351 COH cycles for EOC during the study period. The cohort included 149 Caucasian, 29 Asian, 16 Black, 10 Hispanic, and 2 self-identified mixed-race patients. Race was not recorded for 19 patients. 62 (41.6%) Caucasian, 15 (51.7%) Asian, 8 (50.0%) Black, 6 (60.0%) Hispanic, and 0 (0%) self-identified mixed-race patients had insurance coverage for EOC. There were no significant differences in the proportion of patients with insurance coverage for EOC when all race categories were compared. Asian patients with insurance coverage presented to care at a younger mean age than Asian patients without insurance coverage (33.6 vs 37.2 years, P=0.009) with a similar finding among Black patients with vs without insurance coverage (36.2 vs 38.9 years, P=0.048). Within each race group, patients with insurance coverage completed a similar mean number of COH cycles and cryopreserved a similar number of oocytes compared to those who did not, although both appeared numerically higher in the groups with insurance coverage.

CONCLUSIONS

Comprehensive fertility insurance coverage decreases racial disparities in utilization of EOC. However, approximately half of patients presenting for EOC do not have insurance coverage for such care. Continued advocacy is needed to increase coverage for oocyte cryopreservation for women wishing to preserve their fertility.

24. NO SIGNIFICANT CORRELATION BETWEEN PATERNAL AGE AND ANEUPLOIDY IN PGT- A TESTED EMBRYOS

Authors: Katerina Poulos BSc, Katerina Portokalis, Antonina Faraci, Manuel Viotti PhD, Violetta Florova, Roohi Jeelani MD,

Affiliation: Kindbody, Chicago, IL USA

OBJECTIVE

To determine the correlation between paternal age and PGT-A results in frozen donor oocyte thaw cycles.

DESIGN

A retrospective chart review was conducted on patients who underwent an oocyte thaw with frozen donor eggs at a private, multi-site fertility center.

MATERIALS AND METHODS

Analyzing the PGT-A results of patients who underwent an oocyte thaw cycle using frozen donor eggs in 2023. Donor eggs were used to reduce the potential effect of poor egg quality from autologous partners. Aneuploid rates indicate the proportion of embryos that exhibit aneuploidy, an abnormal number of chromosomes. Aneuploid embryos are less likely to result in live birth, and those that do are at a higher risk for inherited birth defects (Viotti et al., 2020). Linear regression and t-tests were used to analyze the data and determine significance.

RESULTS

There were 222 patients included in this study with an average male age of 40 years old with a range of 27 to 55. The average aneuploidy rate was 14.73% and the euploid rates were 72.3%. The results show that as paternal age increases, there is not a significant correlation to aneuploidy rates, as the p-value was 0.465. Given the results of the analysis, there is no statistically significant correlation between paternal age and aneuploidy rates.

CONCLUSIONS

Our study suggests that as men age, there is not a negative effect on the aneuploidy rate in embryos from fertilized frozen donor eggs. Furthermore, as many patients are moving more to using frozen rather than fresh egg donors, the effect of paternal age does not appear to affect the outcome of aneuploidy rates. This is reassuring for couples with a male partner over 40 years old when deciding to use frozen donor eggs who may be concerned about aneuploidy rates. Further studies have also given reassurance and shown that there is neither a negative effect on fertilization or blastocyst development as well. Next steps could dive into transfer rate success and birth outcomes with the possible limitations of maternal effects of the embryo transfer.

25. COULD THE NEW ANTI-AGING MEDICATION GROWTH HORMONE RELEASING HORMONE (GHRH) HELP IMPROVE PGT-A RESULTS IN IVF?

Authors: Katerina Poulos BSc, Elana Molcho MD, Thalya Douyon BSc, Katerina Portokalis, Chloe Nourbash BSc, Roohi Jeelani MD, Angie Beltsos MD

Affiliation: Kindbody, Chicago, IL USA

Background: Growth Hormone has been used as an adjunct to IVF to try to improve oocyte quality and quantity. Synthetic GHRH analog, Sermorelin, creates an endogenous production of GH and IGF-1 which could play a pivotal role in ovarian function, follicular development, and overall reproductive health.

OBJECTIVE

To investigate the relationship between GHRH usage and the rates of aneuploid embryos in patients.

DESIGN

A retrospective chart review was conducted on patients who took GHRH at a private, multi-site fertility center.

MATERIALS AND METHODS

Patients with diminished ovarian reserve who underwent IVF treatment at Kindbody throughout 2023 were examined. The age range was stratified by under 35, 35-37, 38-40, 41-42, and 42+ years old. Their GHRH usage and subsequent PGT-A results were collected. The average dosage for these patients were 675 units of Sermorelin per cycle.

RESULTS

2652 oocytes were collected from 332 cycles. 15.67% of these oocytes were mature, fertilized, and made it to the blastocyst stage (n=418). 48.39% of the embryos that underwent PGT-A were aneuploid, 44.08% of the embryos were euploid, and less than 8% had results with mosaicism. Stratifying the data by age, the average aneuploidy rate for patient's blastocysts under 35 was 37.5%, ages 35-37 was 33.3%, ages 38-40 was 40.8%, 41-42 was 81.1%, and above 42 years old had an aneuploidy rate of 85.7%.

CONCLUSIONS

The average combined age aneuploidy rate is 56.6% (Morris). With this poor responder cohort who were treated with GHRH, the average aneuploidy rate was 48.39%. When stratifying this data by age, the average aneuploidy rates according to Joshua et al were age <35 (46%), age 35-37 (54%), age 38-40 (63%), age 41-42 (66%), and age >42 (54%). With the addition of GHRH, aneuploidy rates decreased for the first four subcategories of age.This data demonstrates that using GHRH to create an endogenous surge of GH may be a new treatment for the challenging diminished ovarian reserve patient.

26. INFERTILITY TREATMENT IN THE UNDERSERVED POPULATION

Authors: Kimberly Yau, Kaitlin Doody, Jasmine Fernandez, Anne-Marie Tehn-Addy, Sharon Winer

Affiliation: USC Keck School of Medicine, Los Angeles, CA

OBJECTIVE

Studies have shown that fertility-related knowledge among the general public is low, especially in those with low education.[1,2] The aim of this project is to use video-based patient education to increase patient literacy on the men-

strual cycle, natural fertility, the basic infertility evaluation, and treatment options at our County based infertility clinic.

DESIGN

This is a quality improvement study.

MATERIALS AND METHODS

Patients seen for in-person and virtual appointments between 8/2023-10/2023 related to infertility evaluation and treatment were asked to participate. A 7-minute informational video was created explaining basic physiology, recommended infertility testing, and basic infertility treatment options. The study included a pre-video survey, the informational video, and a post-video survey to assess knowledge after watching the video. All information was provided in English or Spanish based on the patient's preferred language. Univariate statistical analysis was performed as appropriate.

RESULTS

A total of 45 patients completed the study. The average age was 34.9 years (SD 4.6). The majority of patients (57.8%) were primarily Spanish speaking, and 35.5% of patients had education beyond high school. 90% of patients had been trying to conceive for >1 year. The most commonly cited reasons for delaying care were concerns about financial cost of treatment (51%) and uncertainty regarding how age impacts fertility (33%). After the video intervention, 95.6% of patients felt comfortable with their knowledge in how to become pregnant (26.7% increase), 77.8% of patients correctly identified when to have timed intercourse (17.8% increase), 93.3% of patients understood the infertility workup (24.4% increase), and 95.6% of patients recognized that fertility after the age of 35 declines (22.2% increase). All 45 patients (100%) found the video helpful.

CONCLUSIONS

After the video intervention, there was improved understanding of all topics presented, and nearly all patients felt comfortable optimizing natural fertility, understood the infertility workup, and were aware of age-related fertility decline. 100% of patients found the created informational video helpful; thus, video-based patient education is an effective tool to improve patient understanding of reproductive physiology and infertility treatment in an underserved population.

27. EXPLORING DE LA CHAPELLE SYNDROME IN MALE INFERTILITY

Authors: Tejeshwar Singh Bawa MD[2], Karmen Brar MD[2], Reeva Makhijani MD[1,2]

Affiliations: [1]The Center for Advanced Reproductive Services, Farmington, Connecticut [2]Department of Obstetrics and Gynecology, UConn Health, Farmington, Connecticut [3]Department of Internal Medicine, UCONN Health, Farmington

OBJECTIVE

This study investigates the rare diagnosis of de la Chapelle syndrome diagnosed in a 35-year-old male presenting in a couple with primary infertility. Our study aims to emphasize the azoospermia in uncovering atypical causes of male infertility.

DESIGN

A case study performed at a university-affiliated private practice.

MATERIALS AND METHODS

Initial workup included history, physical exam, semen analysis, hormonal bloodwork, Y chromosome microdeletion analysis, Karyotype and Fluorescence in-situ Hybridization (FISH) analysis with SRY probe.

RESULTS

Initial and repeat semen analysis revealed azoospermia. Bloodwork results were notable for low testosterone levels (111 ng/dL), elevated follicular stimulating hormone (31.6 mIU/mL), and elevated luteinizing hormone (20.5 mIU/mL), suggestive of primary testicular failure. There were Y chromosome microdeletions detected in the AZFa, AZFb, and AZFc regions. The patient's karyotype was 46, XX and FISH testing was positive for the SRY gene.

CONCLUSION

Evaluation has revealed the genetic basis of infertility in this 35-year-old male as de la Chapelle syndrome, characterized by a 46, XX karyotype with SRY gene translocation. This finding emphasizes the importance of including genetic evaluation in men with azoospermia. The patient was referred to urology and for genetic counseling. He has been started on testosterone supplementation and the couple plans to proceed with inseminations using donor sperm.

28. JUST A NUMBER: INTRAUTERINE INSEMINATION (IUI) PREGNANCY RATES ARE LOWER THAN IN-VITRO FERTILIZATION (IVF) IMPLANTATION RATES IN PATIENTS WITH DIMINISHED OVARIAN RESERVE (DOR) AMONG YOUNGER PATIENTS

Authors: *C. McKay BS, S. Chen MD, K. Poulos BS, T. Soy MS, R. Jeelani MD*

Affiliations: Kindbody, Chicago, IL

OBJECTIVE

The objective of this analysis was to compare IUI pregnancy rates in DOR patients with an anti-Mullerian hormone (AMH) less than or equal to 1 ng/mL across age categories to IVF cases reported in 2020 by the Society for Assisted Reproductive Technology (SART).

DESIGN

A retrospective chart review was conducted at a private fertility center. Patients were stratified by age to match SART age groups: <35, 35–37, 38–40, 41–42, >42.

MATERIALS AND METHODS

All treatment cycles for women with an infertility diagnosis for DOR and AMH less than or equal to 1 ng/mL undergoing IUI between 2018 and 2022 were included. Calculations of the average pregnancy rate after IUI in each age group was calculated and compared to IVF pregnancy rates for DOR patients in the same age group. One-sample t-tests were used to calculate adjusted odds ratios and analyzed in R.

RESULTS

Of 125 treatment cycles, 13 resulted in pregnancy. When stratified by age, the average pregnancy rates (<35: x̄=8.6%, 35–37: x̄=12.5%, 38–40: x̄=22.2%, 41–42: x̄=6.3%, >42: x̄=6.3%) were all lower than SART-reported implantation rates (<35: x̄=42.1%, 35–37: x̄=37.1%, 38–40: x̄=27.6%, 41–42: x̄=16.2%, >42: x̄=7.0%). The youngest two age groups had a statistically significantly lower pregnancy rate after undergoing IUI compared to their IVF counterparts (<35: p<.001, 35–37: p=.0016, 38–40: p=0.6, 41–42: p=0.1, >42: p=0.8).

CONCLUSIONS

Pregnancy rates of younger patients were significantly lower after IUI than IVF, indicating that IUI may not be a favorable treatment for DOR patients under 37 years of age. Therefore, younger patients with DOR could be candidates to forgo IUI and go directly to IVF. A limitation of this analysis is that live birth outcomes were not available for extended analysis. Further research should be done analyzing live birth outcomes from both IUI and IVF treatment across age groups to better understand effective treatment for DOR patients.

29. EXPLORING IVF CYCLE OUTCOMES IN PATIENTS 42 AND OVER: HOW SUCCESSFUL ARE WE?

Authors: Hanna Kim[1,2], Emily H. Frisch[1], Marjan Attaran[1,2], Nina Desai[1]

Affiliations: [1]ObGyn and Women's Health Institute, Cleveland Clinic. Cleveland, OH [2]Cleveland Clinic Fertility Center, Cleveland Clinic. Cleveland, OH

OBJECTIVE

To examine cycle specific details, preimplantation genetics testing results for aneuploidy (PGT-A), and pregnancy outcome data for women aged 42 and older undergoing IVF cycles with autologous oocytes.

DESIGN

Retrospective Cohort Study

MATERIALS AND METHODS

This study looked at IVF cycle outcomes in women aged 42-46, undergoing IVF with PGT-A using autologous oocytes, from 2020-2023. A total of 60 patients were included. This study was conducted at a single academic institution with Institutional Review Board approval. Descriptive statistics were utilized to analyze data. Clinical pregnancy was defined as a fetal pole with heartbeat.

RESULTS

At time of first cycle, 46.7% were age 42.0-42.9, 41.7% were age 43.0-43.9, 5% were age 44.0-44.9, and 6.7% were age 45.0-45.9. The average AMH was 1.9±1.28 (0.08-6.74). The following stimulation protocols were utilized: 73.3% Antagonist, 21.7% Microdose Lupron, 5.0% luteal Lupron cycles. Of the 116 cycles initiated for 60 patients, 93 cycles resulted in PGT-A testing and cryopreservation of one or more blastocysts. The average number of cycles per patient was 1.93±1.07. A total of 1226 oocytes were obtained with a maturity rate of 74.6% and ICSI fertilization rate of 79.5%. Blastulation rate was 39.7%, average of 2.97±2.07 blastocyst frozen. For PGT-A testing, the average number of biopsied embryos was 2.96±2.11. A total of 271 embryos were tested for aneuploidy: 17.7% were euploid blastocysts. 45% of patients (n=27) created one or more euploid embryos. 29 transfers were performed with a clinical pregnancy rate of 51.7% per transfer.

CONCLUSIONS

Our study demonstrates a higher-than-expected euploidy rate for people aged 42-46. Of the patients who were able to make an euploid embryo and underwent embryo transfer, the clinical pregnancy rate was favorable. This study is helpful in assessing IVF success in patients over age 42– aiding in fertility counseling and setting patient expectations.

30. SHARED EXPERIENCE OUTCOMES IN 1,416 WOMEN WITH UNEXPLAINED INFERTILITY TESTED WITH RECEPTIVADX™ (BCL6): EFFECT OF TREATMENT ON SUBSEQUENT EMBRYO TRANSFER

Authors: Angress Dan

Affiliation: Cicero Diagnostics Inc

IVF Center Contributors: (1) NYU Langone Fertility Center, (2) NYU Langone Fertility Center ACWS, (3) CCRM Fertility Center NY, (4) CCRM Fertility Center SF, (5) Central Coast Fertility San Louis Obisbo (6) FCI Fertility Center Buffalo Grove (7) Nashville Fertility Center,TN, (8) Piedmont Fertility (Ashville, NC), (9) Ganin Fertility Center (Cairo, Egypt).(10)Aimee Eyvazzadeh, M.D (San Ramon, CA) (11) AZ Ctr for Fertility Studies (Scottsdale AZ), (12) Northwell Fertility (Manhasset, NY)

OBJECTIVE

Provide larger scale outcomes in women tested for BCL6, comparing positive treated to untreated BCL6 negative controls. The study size provides new independent support for the existing published studies.

DESIGN

A retrospective analysis of over 1400 patients from 12 independent IVF centers tested for BCL6 looking specifically at ongoing pregnancies and livebirth (LBR) as an endpoint on the next transfer after testing.

MATERIALS AND METHODS

All patients included presented with UI (unexplained infertility) with clinical information taken from the ReceptivaDx™ test requisition form, including number of failed IFVs, recurrent pregnancy loss, or prior diagnoses of suspected hydrosalpinx, adenomyosis, and PCOS. For positive BCL6 results, only patients treated with surgical laparoscopy or GnRH agonists (depot leuprolide acetate or Zoladex®) were included. To minimize bias, any samples with limited clinical history were not included. Centers provided treatment and outcomes and patients were then deidentified.

RESULTS

The average failure rate in the study was 1.9 and 88% of the patients were PGS tested.

CONCLUSIONS

We report by far, the largest number of outcomes results for BCL6 tested patients using pregnancy rates and LBR data provided retrospectively by twelve independent centers. The cumulative outcomes support earlier published data on the value of BCL6 testing in women with UI undertaking IVF. In those studies, results showed three key takeaways; Positive BCL6 expression (histologic score, >1.4) was highly associated with endometriosis,[1,2,5] positive BCL6 expression untreated was strongly associated with poor reproductive outcomes compared to negative BCL6 expression (12% vs 52% respectively), [3,4.] and follow-up independent studies continue to show the success of treatment on BCL6 positive patients [6,7] With this analysis, we add to the collective studies demonstrating the consistent value of BCL6 in identifying and treating women with UI, IVF failure, and recurrent pregnancy loss. Limitations of this study include the retrospective design and reliance on self-reported clinical characteristics.

SUPPORT

The author is an employee of Cicero Diagnostics, the licensee of the ReceptivaDx test.

31. IMPACT OF PRIOR CESAREAN SECTION ON EUPLOID FROZEN EMBRYO TRANSFER MISCARRIAGE RATES

Authors: Naveena Daram MD[1], Katerina Poulos BSc[2], Elana Molcho MD[2], Angie Beltsos MD[2,3], Roohi Jeelani MD[2,3]

Affiliation: [1] Wright State University, Dayton, OH, USA; [2] Kindbody, Chicago, IL, USA; [3]Wayne State University, Detroit, MI, USA

OBJECTIVE

Previous research indicated lower miscarriage rates following a history of CS, however ploidy status was not distinguished.[1] The objective of our study was to examine the correlation between history of prior cesarean section (CS) and miscarriage rates in euploid frozen embryo transfers (FET).

DESIGN

Retrospective analysis conducted at a multi-center fertility practice

MATERIALS AND METHODS

Our sample included euploid FET cycles from 2022 to 2023 in patients with history of prior CS. Outcomes were stratified into biochemical pregnancies, miscarriages, spontaneous abortions, live births, and stillbirths. The first three were combined to determine the overall miscarriage rate. Rates were compared to prior published data from euploid FET cycles.

RESULTS

Findings show that there is a higher miscarriage rate and lower live birth (LB) rate in euploid FET cycles for patients

BCL6 Patients Treated with GnRH agonist (Lupron) or Laparoscopy vs Untreated Negative

	Patients Tested	Pregnancy Rates	Live Births and On-going pregnancies	Pregnant and Lost	Not Pregnant
BCL6 Positive Treated	688	480 (70%)	404 (59%)	78 (11%)	209 (30%)
BCL6 Negative Untreated	728	498 (68%)	412 (57%)	85 (12%)	231 (32%)

with a history of at least one prior CS when compared to previously published data of euploid FET cycles in all patients. Out of 2611 euploid FET cycles, we had an overall miscarriage rate of 27.6%, LB rate of 42.4%, and stillbirth rate of <0.1%.

CONCLUSIONS

Prior CS is associated with higher miscarriage rates and lower LB rates, emphasizing the potential impact of prior CS on the success of treatment. These findings serve as a preliminary analysis to help patients and providers gain a better understanding of the chance of LB when they have a history of prior CS. Future studies can focus on analyzing the association between number of prior CS, gestational age at time of CS, and type of CS with miscarriage and LB rates after euploid FET.

32. GROUP B STREPTOCOCCUS IN PREGNANCY COMPARING SPONTANEOUS CONCEPTION VERSUS CONCEPTION USING ASSISTED REPRODUCTIVE TECHNOLOGY

Authors: [1]Lauren E. Barrison, [2]Howard J. Li, [2]Alan H. DeCherney

Affiliation: [1]Shady Grove Fertility, Wexford, PA, [2]Eunice Kennedy Shriver National Institute of Child Health and Human Development Bethesda, MD

OBJECTIVE

to assess group B streptococcus (GBS) colonization among pregnancies conceived with assisted reproductive technology (ART) versus pregnancies conceived spontaneously.

DESIGN

retrospective cohort study

MATERIALS & METHODS

this study used data from the national study PregSource: Crowdsourcing to Understand Pregnancy (PregSource) that was made publicly available through the National Institute of Child Health and Human Development's Data and Specimen Hub. PregSource utilized a longitudinal, crowd-sourcing, citizen science approach, asking pregnant women about their pregnancies between 2017-2023. Pregnancies that reached ⩾ 21-weeks gestation and indicated their method of conception were included. The primary outcome was GBS detection during pregnancy. ART for this study included intrauterine insemination, in vitro fertilization, or fertility medication. Mann-Whitney U-tests, chi-squared tests, and logistic regression models were used ($p<0.05$ considered significant).

RESULTS

2345 females enrolled in PregSource, of which 1437 (61.3%) completed the initial survey. 646 participants had pregnancies that reached ⩾ 21-weeks gestation and completed the survey regarding pregnancy outcomes. 586 (90.7%) of these participants answered the survey question on method of conception, and this group was further analyzed. 514 participants conceived spontaneously (87.7%) and 72 conceived using ART (12.3%). The two groups were similar in regards to race, prior history of GBS, and prior history of sexually transmitted pelvic infection. The median age was 36.0 years (interquartile range (IQR) 33-39) in the spontaneous conception group vs. 39.5 years (IQR 36.8-43) in the ART group ($p<0.001$). The groups also differed in household income and number of prior pregnancies. GBS diagnosis during pregnancy was comparable between the spontaneous conception (N=47, 9.1%) and ART (N=3, 4.2%) groups ($p=0.157$). Logistic regression analyses assessing the influence of variables known to be associated with increased risk of GBS (such as race and income) were not significant, suggesting that GBS in pregnancy between the two groups remains comparable when controlling for these variables.

CONCLUSIONS

GBS in pregnancy is not associated with method of conception (spontaneous vs. ART).

33. UNDERSTANDING IVF OUTCOMES IN PATIENTS <37 YEARS OLD WITH UNEXPECTED POOR OVARIAN RESPONSE AT A SINGLE CENTER

Authors: Hanna Kim[1,2], Emily Frisch[2], Marjan Attaran[1,2], Nina Desai[1]

Affiliations: [1] Cleveland Clinic Fertility Center, Cleveland, OH [2] Womens' Health and OB/Gyn Institute, Cleveland Clinic Foundation, Cleveland, OH

OBJECTIVE

To understand incidence, patient characteristics, and outcomes of IVF cycles with unexpected poor response in patients <37.

DESIGN

Retrospective Cohort Study

MATERIALS AND METHODS

Electronic medical records were used to collect demographics and IVF cycle information on patients age <37, who had <5 total oocytes retrieved from 2021-2023. Clinical pregnancy was defined as presence of fetal pole with heartbeat. This study was IRB approved. Descriptive statistics were used.

RESULTS

42 patients had 50 IVF cycles that fit inclusion criteria. The average age of patients was 34.1±2.0. AMH range was 0.045 to 3.93. Average antral follicle count was 10.0±5.23. Most patients underwent Microdose Lupron protocol (42%) or Antagonist protocol (38%) for ovarian stimulation. 28 patients (66.7%) had some form of insurance coverage, partial and complete coverage included. On average, 2.72±1.1 oocytes were retrieved each cycle. Maturity rate was 75%. Fertilization rate with ICSI was 66.7%. Blastulation rate was 55.9%. On average, 0.76±0.82 blastocysts were created each IVF cycle. 22 cycles (44%) had no blastocyst formation. 3 patients underwent preimplantation genetic testing for aneuploidy with 6 blastocysts biopsied, with 83.3% euploid. 26 single frozen blastocyst transfers were performed in 22 patients, resulting in 8 clinical pregnancies per thaw cycle (30.8%). 9 patients still have banked embryos.

CONCLUSIONS

This study on POR patients with <5 oocytes moving forward with IVF treatment provides insight on the overall prognosis for this subset of patients. The high blastulation rate and euploidy rate in PGT-A tested embryos was encouraging regarding outcomes despite poor ovarian response. However, these patients still tend to have lower clinical pregnancy rates than age matched cohort, suggesting possible multifactorial causes of infertility. Further research is needed into this subset of patients to determine these potential causes and solutions.

34. IMPLEMENTATION OF A 12 WEEK PROGRAM TO OPTIMIZE FERTILITY THROUGH WEIGHT LOSS EDUCATION

Authors: Emily Stephenson MD[1], Holly Hodges[2], Neil Chappell MD, MSCI[3]

Affiliations: [1]Department of Obstetrics and Gynecology Louisiana State University Health Sciences Center- Baton Rouge; [2]Louisiana State University Health Shreveport, Shreveport; [3]Fertility Answers, Baton Rouge

OBJECTIVE

Obesity is a widespread problem in the United States that has been correlated with multiple increased risks including infertility. Studies have shown that improvement in weight loss and overall health improve fertility. We designed a low cost, high impact program to try to optimize diet and lifestyle through education and accountability. The present study aims to describe the prospective implementation of the program and retrospectively survey participants' experiences and attitudes after referral to this program by a Reproductive Endocrinologist and Infertility (REI) provider.

METHODS

We conducted a retrospective telephone survey of all patients from a single site private practice fertility clinic that were referred to the Fertility Fitness Program (FFP) between July of 2020 through 2022 (n equals 102). The FFP consisted of a nutrition consult, 6 weeks of exercise coaching followed by 6 weeks of open gym, and weekly phone calls with a lifestyle coach. The responses from participants identifying barriers were analyzed using means/standard deviations and counts/frequencies to summarize population characteristics among survey respondents for continuous and categorical variables respectively. Counts/reasons for not enrolling in the Fertility Fitness Program were calculated among non-enrollees.

RESULTS

This is a group of 102 patients from a single site private practice fertility clinic who were offered enrollment in the FFP. Overall, despite attempts at decreasing barriers for patients, participation rates in the actual program remained low. Of the 102 patients who were contacted after being offered the program, 26 participated in our survey. Survey results for barrier to participation were as follows: 19 percent cost, 50 percent time commitment, 38 percent convenience, 8 percent transportation, 4 percent changed physicians, 23 percent program burden, 27 percent readiness for change, 11 percent support, 4 percent childcare.

CONCLUSION

Our findings affirm prior studies showing that participation in weight loss programs is extremely challenging, despite appropriate accommodations. In our study, time commitment was the most frequently experienced barrier to participation in a fitness program. The FFP was conducted during the COVID 19 pandemic which may have been further impacted our results and warrants further exploration.

35. TRENDS IN MATERNAL AND INFANT MORBIDITIES AND MORTALITIES ACROSS 35 OF AMERICA'S LARGEST CITIES FROM 2014 TO 2021

Authors: Gabriel Vizgan, MS, MBA; Yelizabeta Skorokhod; Natalie Cipriano; Julian Sherman, MS

OBJECTIVE

This abstract aims to examine the trends that contributed to maternal and infant death, congenital disease, and low birthweight in the US from 2014 to 2021 in order to correlate these trends to public health policy and programs in the studied areas.

METHODS

Data was gathered by the CDC and stratified by year, city, state, region, poverty level, city population, city population density, and city segregation.

RESULTS

It was found that infant deaths within 1 year of life decreased from 2014 to 2021 on average across all studied cities. The highest levels of infant deaths were seen in the Hispanic population. African Americans were, on average, found to have the highest records of maternal deaths during pregnancy or within 42 days of giving birth. African Americans were also found to have the lowest percentage of births for which prenatal care begun in the first trimester, on average. Baltimore had the highest levels of congenital syphilis and cities classified as "Southern" had the highest percentage of live births with weight <2500 grams.

CONCLUSION

The analysis of maternal and infant health trends in the USA from 2014 to 2021 has provided valuable insights into the challenges faced by certain communities and regions. The data highlights specific geographic variations, which underscores the critical need for targeted public health policies and programs to address these disparities and improve maternal and infant health outcomes. It is imperative that healthcare professionals be aware of these disparities and act as a driving force for change in their own communities.

36. IN VITRO FERTILIZATION (IVF) IS ASSOCIATED WITH PLACENTA ACCRETA SPECTRUM (PAS) LEADING TO CESAREAN HYSTERECTOMY (C-HYST) IN PRIMIPAROUS PATIENTS

Authors: Sebastian Geraci, DO[1], Ioanna Katehis, MD, MPH[1], Meredith Akerman, MS[2], Linda Sung, MD[1]

Affiliations: [1] New York University Grossman Long Island School of Medicine;[2] New York University Langone Health

OBJECTIVES

To compare risk factors for PAS development and adverse maternal and fetal outcomes in patients who conceived spontaneously or via IVF and underwent PAS-indicated C-Hyst at delivery.

DESIGN

Retrospective cohort study of singleton pregnancies at New York University Langone Hospital – Long Island with PAS-indicated C-Hyst from 10/1/2019 to 6/30/2023.

MATERIALS AND METHODS

Patients had pathology-confirmed PAS specimens. Patients with multiple gestation, donor oocytes, and gestational carriers were excluded. Statistical analysis utilized chi-square, Fisher's exact, and Wilcoxon signed-rank tests in SAS version 9.4 and R version 4.3.2. Results are presented as percentages, means with standard deviations, and medians with interquartile ranges. Statistical significance was $P < 0.05$.

RESULTS

27 C-Hysts were identified, with 11 spontaneous and 9 IVF-conceiving patients meeting study criteria. 50% of PAS-indicated C-Hysts occurred in primiparous IVF patients versus none in primiparous spontaneous conception patients ($P = 0.018$). IVF patients reported fewer number of prior cesarean deliveries ($P = 0.012$). No other demographic differences including prior gynecologic surgery or placentation were noted. No associations were noted between conception method and antepartum detection. No differences were noted in adverse maternal and fetal outcomes by conception method. Suspected PAS cases were detected by transvaginal ultrasound and follow up pelvic MRI ($P < 0.001$ and $P = 0.033$, respectively). Suspected PAS cases were associated with increased severity of disease and presence of placenta percreta ($P = 0.003$). Antepartum detection was associated with delivery within American College of Obstetricians and Gynecologists (ACOG) recommendations at 243 days versus 260 days gestation in undetected cases ($P = 0.014$). Antepartum detection was also associated with delivery of lower birth weights, 2,465 grams versus 3,165 grams in undetected cases ($P = 0.035$).

CONCLUSIONS

Primiparous IVF patients are at risk of PAS requiring C-Hyst. Preconception counseling must be provided to all IVF patients, even in the absence of overt PAS risk factors. Antepartum surveillance must be improved, specifically in patients with less severe PAS pathology, to confide by ACOG recommended delivery timing.

37 CYCLE-SPECIFIC AMH AND OOCYTE YIELD: APPLICATIONS IN DIMINISHED OVARIAN RESERVE PATIENTS UNDERGOING MINIMAL STIMULATION PROTOCOLS FOR IN-VITRO FERTILIZATION (IVF)

Authors: Andrew Claffey, MD[1]; Melanie Evans, MD[2]; Eugenia Kakadiaris, MD[1]; Karla Saner, PhD[2]; Donald McIntire, PhD[1]; Orhan Bukulmez, MD[2].

Affiliations: *[1]The University of Texas Southwestern Medical Center, Department of OB/GYN. [2]The University of Texas Southwestern Medical Center, Department of Reproductive Endocrinology and Infertility.*

OBJECTIVE

We seek to explore the anti-Mullerian hormone (AMH) variation measured over repetitive cycles of minimal stimulation IVF (MS-IVF) in patients with diminished ovarian reserve (DOR) and the subsequent changes in oocyte yield for each cycle.

DESIGN

24 women who underwent 82 total repetitive MS oocyte retrieval cycles were included. Each patient had at least 3 consecutive cycles with ≥1 oocyte retrieved. The cycle-specific (CS)-AMH levels were measured in an assessor-blind fashion from stored serum samples collected during each successive cycle on the day before stimulation.

MATERIALS AND METHODS

All MS protocols included clomid 100 mg daily. On day 5 of the stimulation, a purified human menopausal gonadotropin (pHMG) was started at 150 IU every other day, with some patients receiving alternating daily doses of pHMG 75/150 IU. A half-dose antagonist was added based on the patients' labs. Patients were triggered with 10,000 Units of HCG when follicles were deemed ready, and oocyte retrieval was performed 35 hours later.

The following parameters of ovarian response in each treatment cycle were analyzed: [1] total FSH dose used per cycle, [2] total clomid dose used per cycle, [3] total antagonist dose used per cycle, [4] estradiol (E2) concentration on the day of hCG administration, [5] number of oocytes retrieved per cycle, [6] patient age at time of each treatment cycle, [7] baseline AMH per patient before treatment. A repeated measures random effects regression model provided the association between the number of oocytes and CS-AMH. For analysis purposes, the number of oocytes was transformed using a logarithmic transformation to approximate a normal distribution more closely. An unstructured covariance structure was used for the repeated measures. Significance was deemed a p-value of ≤ 0.05.

RESULTS

The number of oocytes increased significantly with increasing CS-AMH at 0.147 (0.044, 0.250) per unit change in AMH (P=0.007). Doses of Clomid, FSH, and Antagonist did not affect the significance (p-values: 0.37, 0.80, 0.32).

CONCLUSIONS

The number of oocytes significantly increases with higher CS-AMH; although not significant, the number of oocytes also increases with each cycle. Among the cycle parameters studies, only AMH and peak E2 levels at trigger significantly affect egg yield.

38. EXPLORING SOURCES OF ARTIFACTUAL MOSAICISM AND INCONCLUSIVE RESULTS IN PGT-A DUE TO EMBRYO BIOPSY COLLECTION METHODS

Authors: *Louise Castillo B.S.[1,2], Janan Shahin M.S.[1,2], Lilya Eid[1,2], Amber Cooper M.D. [1,2], Manuel Viotti Ph.D. [1,2]*

Affiliations: *[1] Kindlabs, LLC; [2] Kindbody, Inc.*

OBJECTIVE

To identify factors of embryo biopsy collection that result in technical noise in Preimplantation Genetic Testing (PGT-A), leading to either artifactual mosaicism or inconclusive results.

DESIGN

Observational study correlating embryo biopsy collection methods to PGT-A results and technical noise metrics.

MATERIALS AND METHODS

Data pertaining to embryo biopsy collection technique, assisted pre-hatching, and sample tubing were collected from 18 participating embryology laboratories submitting blastocyst-stage trophectoderm biopsy samples to a single molecular diagnostics laboratory performing PGT-A by Next Generation Sequencing (NGS). A total of 6,322 biopsies collected between April and December 2023 were included in the study. Rate of mosaic results, inconclusive results, and technical noise in the NGS results (DLRs) were used in the analysis to test correlations. Group comparisons involving categorical outcome variables were conducted using a two-tailed chi-square test or a two-tailed Fisher's exact test. Comparisons involving quantitative outcome variables were conducted using an unpaired, two-tailed t-test. Significance was defined as P<0.05.

RESULTS

The analysis of biopsy technique 'pulling' vs 'flicking' , Day 3 or Day 4 assisted hatching vs no pre-hatching, and tube pre-loading vs dry loading showed no statistically signif-

icant differences (P>0.05) across all groups in the overall incidence of mosaicism (9.92% ± 0.20), in the incidence of inconclusive results (0.67% ± 0.21), and in the rate of technical noise (DLRs: 0.080 ± 0.0023). Among the variables probed, all of which are in use in routine procedures at embryology labs, none showed any significant impact on the nature or quality of PGT-A results.

CONCLUSIONS

The collection of blastocyst-stage biopsies for PGT-A may accommodate technique variations without noticeably impacting PGT-A results by NGS. These findings suggest that, within the tested variables, there is no need to impose unnecessary protocol restrictions on biopsy sample collection and preparation solely due to a theoretical risk of generating suboptimal PGT-A outcomes. Furthermore, these observations indicate that the reported variability in the incidence of mosaicism is unlikely due to commonly used biopsy collection techniques.

39. EXPLORING THE INFLUENCE OF NEIGHBORHOOD POVERTY, RACE/ETHNICITY, AND CLINICAL FACTORS ON THE CHOICE OF SURGICAL PROCEDURE OF UTERINE LEIOMYOMA IN MARYLAND: A RETROSPECTIVE ANALYSIS (2015-2020)

Authors: *Vania Nwokolo, MD[1], Oluwasegun Akinyemi, MD, MS[2], and Shannon Wentworth, MD[1].*

Affiliations: *[1]Obstetrics and Gynecology, Howard University Hospital, Washington, DC. [2]The Clive O. Callender, M.D., Howard-Harvard Health Sciences Outcomes Research Center*

OBJECTIVE

About 5-10% of infertile women have leiomyomas. Surgically removing leiomyomas has been shown to increase pregnancy rates from 25% to 42%. When comparing fertility outcomes between laparoscopic vs abdominal myomectomy, there is no significant difference. However, abdominal myomectomy results in more complications. This study examines the impact of neighborhood poverty, as measured by the Distressed Community Index, and race/ethnicity on access to laparoscopic myomectomy in Maryland.

DESIGN

An observational study design and retrospective analysis was utilized.

MATERIALS AND METHODS

Data was collected from the Maryland State Ambulatory Surgery and Services Databases spanning January 2015 to December 2020, focusing on women who underwent laparotomy or laparoscopy for leiomyoma resection. This study investigates the interaction between neighborhood poverty and race/ethnicity and its impact on choosing laparoscopic vs abdominal myomectomy. Our final multivariate analysis adjusted for age, insurance type, length of admission, preexisting comorbidities, and lifestyle factors.

RESULTS

126,650 cases of fibroids were recorded. Among them, 67,570 (53.8%) patients were Black, 83,931 (66.3%) held private insurance, and 10,244 (13.7%) resided in the most economically disadvantaged neighborhoods. Of these, 27,314 underwent myomectomy, with 4,094 (15.0%) opting for laparoscopy. Patients choosing laparoscopic myomectomy were more likely to be Black (OR=1.29, 95% CI 1.14-1.44) and have private insurance (OR=2.56, 95% CI 2.25-2.92). However, those from the poorest neighborhoods were 30% less likely to choose laparoscopy (OR=0.70, 95% CI 0.60-0.83). Black and Hispanic women in the poorest neighborhoods had reduced access to laparoscopic myomectomy compared to their White counterparts.

Conclusion: Our findings show that even though there are fewer risks associated with the laparoscopic approach, minority women with a lower socioeconomic status were more likely to undergo the more invasive abdominal myomectomy. Studies show that these disparities for surgical routes on gynecological surgeries persist even after adjusting for uterine and leiomyoma size. Finding equitable approaches to treating infertility due to fibroids is fundamental to the rights of all patients.

40. CHRONIC ECTOPIC PREGNANCY: CASE REPORT AND REVIEW OF THE LITERATURE

Authors: Katherine Koniares, MD[1]; Wesley Nilsson, MD, MBA[2]; Danielle Luciano, MD[2]; David Schmidt, MD[1]

Affiliations: *[1]The Center for Advanced Reproductive Services, University of Connecticut School of Medicine, Farmington, Connecticut [2]Division of Minimally Invasive Gynecologic Surgery, University of Connecticut School of Medicine, Farmington, Connecticut*

OBJECTIVE

This is the first reported case of chronic ectopic pregnancy (CEP) following intrauterine insemination (IUI). The objectives of this study are to highlight a rare case of CEP and review the literature regarding CEP.

DESIGN

Case report and review of the literature

MATERIALS AND METHODS

A systematic review of the literature was performed to identify all reported cases of CEP following IUI. The literature search was performed using PubMed, Scopus, and Google Scholar.

RESULTS

Of 606 articles screened, none reported cases of CEP following IUI. There are 22 case reports of CEP, 5 retrospective studies, and one case of CEP diagnosed at hysterosalpingogram.

We report the case of a 27 year old G1 who underwent ovulation induction with Clomiphene citrate 50 mg daily for 5 days. On cycle day 10, transvaginal ultrasound (TVUS) demonstrated 3 left ovarian follicles >15 mm in diameter. She was monitored with serial bloodwork and on cycle day 11, the patient's luteinizing hormone surged. The patient underwent an IUI on cycle day 12. Two weeks later, the patient's initial beta human chorionic gonadotropin (βhCG) was 41.1 IU/L. Serial bloodwork revealed an inappropriate rise in βhCG and TVUS demonstrated a left adnexal ectopic pregnancy. The patient received two doses of methotrexate 50 mg/m^2 intramuscularly and her βhCG levels decreased from a peak of 4324 IU/L. Once βhCG levels decreased to undetectable levels and the patient's menses resumed, she underwent a hysterosalpingogram. There was irregular filling of the left tube and TVUS demonstrated a complex left adnexal mass measuring 8.4 x 5.0 cm. The patient underwent a laparoscopic left salpingectomy with removal of ectopic pregnancy, lysis of adhesions, hysteroscopy, and dilation and curettage. Intra-operative findings included an adnexal mass with placental and decidual tissue as well as a dilated and ruptured left fallopian tube. Pathological exam demonstrated decidual changes in the submucosa of the fallopian tube and copious hemosiderin-laden macrophages. The patient recovered well from surgery and resumed fertility treatment.

CONCLUSIONS

CEPs are rare complications of ectopic pregnancies and are often misdiagnosed. Clinicians should include CEP in the differential when a patient presents with an adnexal mass despite a negative pregnancy test.

41. DIAGNOSTIC VALUE OF CIRCULATING MICRORNAS (MIRNAS) FOR THE DIAGNOSIS OF ENDOMETRIOSIS

Authors: Jocelyn M. Wessels, Ph.D.[1,2], Victoria Turpin, M.Sc.[2], and Lauren Foster, Ph.D.[1,2]

Affiliations: [1]Afynia Laboratories, Hamilton, ON, Canada, and [2]Department of Obstetrics & Gynecology, McMaster University, Hamilton, ON, Canada.

OBJECTIVE

Diagnostic delays between 5.3 and 12 years from onset of endometriosis symptoms to diagnosis are well documented. We previously identified a panel of plasma miRNAs capable of distinguishing between people with endometriosis and symptomatic controls with high sensitivity and specificity. The objective of this study was to further demonstrate that circulating miRNA can accurately and reproducibly detect endometriosis.

DESIGN

Cross-sectional.

MATERIALS & METHODS

Three novel cohorts of Canadian women (symptomatic and surgically confirmed cases and controls (n=45; n=40; n=26)) were recruited at McMaster University to validate the diagnostic panel of plasma miRNA using qPCR. Analytical procedures were carried out with researchers blinded to study group. Repeatability and reproducibility were assessed by calculating intra- and inter-plate coefficients of variation (CV%) between technical replicates, and duplicated qPCR runs respectively. One cohort was sent for external validation by an independent laboratory using two different techniques (qPCR and droplet digital PCR (ddPCR)). Finally, bioinformatics were employed on validation study data to assess test performance.

RESULTS

Circulating levels of miRNAs were significantly differentially expressed in surgically confirmed cases vs. symptomatic controls in the different study cohorts ($p<0.01$; $p<0.001$; $p<0.001$). Bioinformatic analyses of overall test performance (area under the curve (AUC), sensitivity, specificity, etc.) in surgically confirmed cases and controls yielded an AUC of 0.952 with high sensitivity (91%) and specificity (96%) ($p<0.0001$). The average intra-plate CV was 1.4% across all miRNAs while the inter-plate CV was 4.0%, and not significantly different. The difference in AUCs obtained in-house vs. an independent laboratory was 3.5% demonstrating reproducibility of results. Additionally, the biomarker panel performance characteristics between qPCR and ddPCR was similar.

CONCLUSIONS

The diagnostic miRNA panel results were reproducible across several validation studies and by an independent laboratory using both qPCR and ddPCR. Taken together, these results demonstrate the diagnostic potential of the miRNAs included in the panel.

Support: Southern Ontario Pharmaceutical & Health Innovation Ecosystem Program (SOPHIE), and Canadian Institutes of Health Research (CIHR) operating grants.

42. A NOVEL SPERM PARAMETER PREDICTS THAT MORPHOLOGY DOES NOT IMPACT INTRAUTERINE INSEMINATION SUCCESS

Authors: Rachel A. Licea MD, Kara Bethel BS, Morgan N. Wilhoite MD, Megan R. Sax MD, Jason St. Pierre Ph.D.

Affiliations: *Division of Reproductive Endocrinology and In-*

fertility, Dept. of Ob/Gyn, University of Cincinnati, Cincinnati, Ohio, USA

OBJECTIVE

To study the effects of a novel sperm parameter, total number of morphologically normal inseminated (TNI) sperm, on positive pregnancy rate in couples undergoing intrauterine insemination (IUI) for infertility treatment.

DESIGN

retrospective cohort study of 194 couples who underwent IUI

MATERIALS AND METHODS

Couples being treated for infertility via IUI with partner sperm were included in this retrospective analysis. Sperm washes with a documented post wash total motile count (TMC) and previous sperm morphological analysis were reviewed. Sperm *morphology was evaluated* using Kruger strict criteria. The novel parameter, TNI, was calculated by multiplying together the post wash TMC with the most recent sperm morphology percentage. The association between TNI and pregnancy rate was determined using a binary logistic regression model with adjustment for female partner age, body mass index, infertility diagnosis, anti-mullerian hormone level, and stimulation medication. A p-value < 0.05 was considered statistically significant.

RESULTS

Of 194 couples who underwent 269 IUIs, 39 couples achieved a pregnancy. TNI ranged from 0 to 17.8 with a mean of 1.3. Increased TNI did not demonstrate an increase in pregnancies ($p > 0.05$).

CONCLUSIONS

Increased TNI was not found to be associated with an increase in pregnancy rate per IUI.

43. INCREASING ACCESS TO FERTILITY CARE: PULSE APPOINTMENT

Authors: Katerina Poulos BSc, Katerina Portokalis, Chloe Nourbash BSc, Emily Wentworth BSc, Roohi Jeelani MD, Angie Beltsos MD

Affiliation: Kindbody, Chicago, IL USA

BACKGROUND

A fertility wellness "check-up" or Pulse appointment has emerged as a proactive approach to reproductive health and increases access to care. Reaching a demographic of patients who may otherwise not have sought or been able to afford fertility testing is imperative. Pulse offers patients inexpensive access to lab work, ultrasound, semen analysis, and a 15-minute provider educational consultation for result review. Pulse appointments are a valuable resource for individuals considering their fertility.

OBJECTIVE

To analyze the conversion rate of patients who undergo a Pulse appointment and subsequently proceed with further fertility assessment and/or treatment.

DESIGN

A retrospective chart review was conducted on patients who had a Pulse appointment at a private, multi-site fertility center.

MATERIALS AND METHODS

A cohort of patients who underwent Pulse appointments at Kindbody from 2020 to 2023, obtaining baseline data of age, medical history, and previous fertility interventions. The $99 Pulse included hormone levels of AMH, FSH, and estrogen along with ultrasound of antral follicle count. After the Pulse appointment, patients were contacted for phone consultations to discuss their results, provide education on treatment options. Subsequent decisions regarding fertility treatments following their Pulse appointment were tracked.

RESULTS

Out of the 1169 patients studied, 30.71% of Pulse appointments led to new patient visits, and within this group, 33.98% proceeded with fertility treatment. Among that 33.98% (n= 204) treatment cycles observed, 57% included advanced reproductive technologies (ART) with 47% in vitro fertilization (IVF) and 10% egg vitrification, as well as 32% intrauterine insemination (IUI), and 11% timed intercourse (TIC). Notably, a majority of patients who initiated their treatment journey through pulse appointments and new patient visits opted for IVF treatment.

CONCLUSIONS

Affordable access to fertility care can be limited, and our study suggests that a quick Pulse appointment provided insight into fertility health and encouraged one third to make new patient consultations who otherwise may not have come. Over 50% of Pulse patients undergoing treatment included timely ART interventions leading to potentially improved chances of conception. Limitations in this study include the retrospective nature and patient population. Access to Pulse appointments may play a critical role in comprehensive care, offering valuable information for family planning and overall health.

44. MEDROXYPROGESTERONE ACETATE DEMONSTRATES EQUIVALENCE IN COMPARISON TO GONADOTROPIN-RELEASING HORMONE ANTAGONIST IN EMBRYO DEVELOPMENT AND PLOIDY RATES IN OOCYTE DONATION CYCLES

Authors: *Stephanie Willson, MD[1], Haley Genovese, MD[1], Andres Reig, MD[1], Christine Whitehead, MS, BSN, RN[1], Leo Doherty, MD[1], Marie Werner, MD[1]*

Affiliations: [1]IVIRMA, Basking Ridge, NJ

OBJECTIVE

In patients undergoing IVF, there has been an increase in the use of medroxyprogesterone acetate (MPA) for pituitary suppression due to its ease of use and lower cost compared to gonadotropin-releasing hormone (GnRH) antagonists. Whether MPA is comparable to GnRH antagonists in parameters of oocyte quality has not been established. In this study we investigated whether MPA use in oocyte donor cycles affects euploidy rate and other IVF outcomes.

DESIGN

Retrospective study of fresh donor oocyte cycles between July 2017 – January 2023 where oocyte retrieval and PGT-A were performed.

MATERIALS AND METHODS

Donors undergoing ovarian stimulation used either MPA or GnRH antagonist for pituitary suppression. The primary outcome was the percentage of euploid blastocysts. Secondary outcomes included number of mature oocytes (M2), fertilized oocytes (2PN), and the rate of blastocyst formation. Pregnancy outcomes were also evaluated. Comparisons were conducted using Chi-squared tests and statistical significance was defined as a p value<0.05.

RESULTS

497 patients met the inclusion criteria. Baseline characteristics of donors treated with MPA (n=249) and GnRH antagonists (n=248) were similar. The rate of euploidy was not different in donors treated with MPA compared to those treated with GnRH antagonists (74.2 vs 77.14%, p=0.142). While donors using MPA had a higher number of M2s and 2PNs, blastocyst formation rate was similar between groups (58.9 vs 59.9%, p=0.594). Pregnancy outcomes after single, euploid, frozen embryo transfer (FET) were similar between the groups, with ongoing pregnancy rates (fetal heart tones at 8 weeks gestation) of 78.7 and 72.7% (p=0.124).

CONCLUSIONS

Data demonstrates similar euploidy rate between MPA and GnRH antagonist protocols, as well as blastocyst formation rate and ongoing pregnancy rate per FET. As MPA becomes increasingly more common in donor cycles, providers can be reassured that it's use does not compromise outcomes.

45. THE IMPACT OF SPERM DNA FRAGMENTATION ON ICSI OUTCOMES

Authors: Vasilia Vastis MD, Michael S. Neal MSc, Stacy Deniz MD, Shilpa Amin MD, Megan Karnis MD, Mehrnoosh Faghih MD.

Affiliations: ONE Fertility, Burlington and McMaster University, Hamilton, Ontario, Canada.

Background: Sperm DNA fragmentation index (DFI) is a diagnostic test for men undergoing infertility treatment. DFI quantifies the level of chromatin fragmentation in sperm cells and is broken into 3 categories: i) DFI <15% is considered normal; ii) 15%<DFI<30% is considered average or borderline integrity; and iii) DFI> 30% is considered poor sperm integrity with low fertility potential. The efficacy of correlating sperm DFI with pregnancy success using assisted reproductive technologies remains to be determined.

OBJECTIVE

The aim of this study was to compare DFI with embryology parameters and pregnancy outcomes for men undergoing IVF/ICSI.

DESIGN

A retrospective chart review of IVF/ICSI treatment cycles was conducted for male patients (n=55) who had a diagnostic sperm DFI testing completed.

MATERIALS AND METHODS

Patients were stratified into one of 3 groups based on their DFI result including: i) DFI <15% (n=34); ii) 15%<DFI<30% (n=16); and iii) DFI> 30% (n=5) for comparison. Semen was processed by a standard swim-up procedure prior to use for ICSI. Descriptive statistics were calculated as mean ± standard deviation. One way ANOVA was conducted to determine any differences between groups. Chi-square analysis with a Yates Correction was conducted to compare pregnancy rates. A p-value < 0.05 was considered statistically significant.

RESULTS

There were no differences in patient and IVF cycle characteristics between the three groups studied (Table 1). Sperm parameters including semen volume; concentration; motility and total motile count (TMC) were similar between the three groups (Table 2). Although not statistically different the normal fertilization and blastocyst rate was highest among patients with a DFI > 30% and there was a higher pregnancy rate in the high DFI group (Table 3) based on a small sample size from our available data.

Conclusion: There were no overt differences in fertilization and embryo developmental characteristics regardless of the DFI result. This leads us to speculate that the negative DFI results in a diagnostic test can to a certain extent be ameliorated with a simple swim up procedure prior to sperm selection for ICSI. Furthermore, the sperm selection process conducted by the embryologist for the ICSI may be effective in selecting the best quality, intact DNA from the cohort of sperm. Further study and a sufficiently powered sample size is required to elucidate this question.

SUPPORT

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46. IMPACT OF PGT-A ON THE STAGES OF PREGNANCY LOSS

Authors: Andrew Claffey, MD[1], Joshua Ricks, MD[1], Kevin Doody, MD[2]

Affiliations: *[1]The University of Texas Southwestern Medical Center, Department of OB/GYN. [2]CARE Fertility.*

INTRODUCTION

Embryo (PGT-A) increases the live birth rate (LBR) after embryo transfer (ET). Yet, the relative impact of PGT-A on improved implantation, biochemical losses, and clinical pregnancy loss is unclear.

OBJECTIVE

We sought to understand further the implications of pregenetic testing-aneuploidy PGT-A on implantation failure (IF) and biochemical and clinical pregnancy (BP and CP, respectively) loss by quantifying observed differences.

DESIGN

A retrospective analysis was performed using the SART National Summary Reports comparing ET with PGT-A to transfers without in the 2020 dataset. Filters were applied to five age categories to assess BP and CP loss and IF in autologous ET cycles.

MATERIALS & METHODS

Chi-square testing was used for statistical calculations. In the PGT-A arm, IFs were calculated by the difference between the number of elective single embryo transfers (eSETs) and the number of patients with a positive serum ß-human chorionic gonadotropin (ß-hCG). The PGT-A (-) arm only included blastocyst-stage ETs to remain consistent with PGT-A transfer and biopsy protocols. BP rate was defined as the percent of + ß-hCG tests per ET, and biochemical loss rate as the difference between CP (gestational sac seen on ultrasound, with rising ß-hCG level) and total BPs observed. The difference between the number of live births and CPs represented the CP loss rate.

RESULTS

BP and CP loss were greater in non-PGT-A tested ETs. The pregnancy loss rates were similar within the specific type of loss in PGT-A (+) ETs, irrespective of age. The LBR remained >50% for the PGT-A group, except for those aged >42. LBR was <46% in all age groups within the PGT-A (-) arm. BP loss, CP loss, and IF rates soared 2-3x higher in the PGT-A (-) group than in the PGT-A (+) group in ages >40 years. Statistical significance was found in all age groups when comparing all three types of losses for IVF cycles that utilized PGT-A and those that did not (p-value <0.00001).

CONCLUSIONS

Overall, pregnancy loss was higher in older patients but was drastically higher rates in older patients with non-PGT-A IVF cycles. The utilization of PGT-A improves live birth rates across all age groups and decreases all stages of pregnancy loss to great extents. This is impactful information when counseling patients on the benefits of PGT-A testing.

47. PREDICTIVE VALUE OF STRICT MORPHOLOGY ON INTRAUTERINE INSEMINATION OUTCOME

Authors: Alexander Matthaeus, MPH ^1, 2^, Mary Baumgartner, BS [2], Douglas Dewire, MD [2], Varya Jambor, PhD [2]

Affiliations: [1]University of Illinois College of Medicine, Chicago IL; [2]Reproductive Specialty Center, Milwaukee, WI

OBJECTIVE

The literature is mixed on the significance of Kruger strict morphology on pregnancy outcome. Proposed explanations for this inconsistency are lack of quality control, drift in criteria for "normal" morphology, and pooled comparison groups. This study evaluates the impact of poor sperm morphology on intrauterine insemination (IUI) outcome.

DESIGN

Retrospective chart review.

MATERIALS AND METHODS

Analysis of strict morphology, additional fertility diagnoses, and pregnancy was performed for couples undergoing IUI from 2012-2023. Strict morphology was determined by two andrologists directly trained by Dr. Thinus Kruger. Exclusion criteria included previous vasectomy reversal, total motile count <5, tubal disease, maternal age ⩾42, diminished ovarian reserve, and uncorrected uterine distortion. Clinical pregnancy rate (PR) was analyzed by chi square for each strict morphology group of 1%, 2%, 3%, and 4% compared to ⩾5%.

RESULTS

A total of 1,660 IUIs were analyzed with a total of 201 pregnancies (PR 12.10%). Strict morphology groups were analyzed for additional fertility diagnoses and were determined to have no statistically significant differences between the groups.

Table 1. Clinical pregnancy rate based on % strict normal morphology

Strict Normal Morphology	# Inseminations	Pregnancy rate	p value
1%	n=106	4.7%	0.0159
2%	n=210	5.2%	0.0011
3%	n=234	9.8%	0.2488
4%	n=233	12.0%	0.9633
≥5%	n=877	15.3%	

CONCLUSION

Poor strict morphology of 1% and 2% is a statistically significant predictor of decreased pregnancy rates. Morphology of 3% and 4% showed a decreased trend in pregnancy rates, which was not statistically significant.

48. RE-VISITING THE LANDSCAPE OF FERTILITY GRANTS ACROSS THE UNITED STATES: AN UPDATE ON ORGANIZATIONS PROVIDING FINANCIAL ASSISTANCE TO PATIENTS WITH INFERTILITY

Authors: Onyinye Ohamadike[1], Preeta Kamat[1], Sarah Cromack[1], Elena Hogenesch[1], Olamide Akin-Olugbade[1], Eve Feinberg[1]

Affilations: [1]Northwestern University, Chicago, IL, United States

OBJECTIVE

To compile a comprehensive list of U.S. organizations offering financial assistance for fertility treatment.

DESIGN

An internet search to identify organizations providing financial aid for fertility treatment in the form of grants, discounted, or donated cycles.

MATERIALS AND METHODS

Search was conducted on Google, GuideStar, and Facebook using key words (infertility, grant, non-profit, and financial aid) in combination with the state of interest.

RESULTS

Since the last published review on this topic in 2018, organizations offering grants have increased by 51%, from 37 to 56. Of the previously identified groups, 9 have closed, most citing decreased funding due to COVID-19.

Organization characteristics are presented in Table 1. Over 1/3rd were founded in the last 5 years. While 40% of grants are offered nationally, more region-specific grants are available in the Midwest (MW) than in the South (S), West (W), or Northeast (NE). Moreover, 27 states have no state-specific grant organization, and 17 of those have no fertility insurance mandate, leaving 1/3rd of the U.S. with neither insurance nor potential for a regional grant. Most organizations focus on infertile couples.

More organizations offer aid for third party services compared to fertility preservation. Only 2 groups are exclusively for people of color. Many grants have eligibility criteria including age, ovarian reserve, and financial need. Grants range from full treatment cycle coverage to dollar amounts ranging from $1,000-75,000.

CONCLUSIONS

While the number of U.S. non-profits offering grants for fertility treatment is expanding, regional limitations and eligibility criteria still leave many without an avenue for coverage. Transparency in organizations and eligibility criteria can increase patient awareness and encourage groups to expand coverage to populations in need.

49. SHOULD SECOND SINGLE BLASTOCYST TRANSFER BE RECOMMENDED AFTER FIRST FAILED TRANSFER IN YOUNGER PATIENTS.

Authors: Manvelyan, Coyne, Weinerman, Hamrick, Chaparro, Palavos, Findley, Flyckt, Kim

Affiliations: University Hospitals, Cleveland, Ohio

OBJECTIVE

Current guidelines in advanced reproductive technologies recommend transfer of one blastocyst for most patients 37 years of age and younger regardless of embryo preimplantation genetical testing. Patients who agree to single embryo transfer (SET) for their first cycle may request a double embryo transfer (DET) after a failed first attempt. The objective of our study is to compare the livebirth (LB) rates and the rate of multiple gestations in young patients who have transferred either one or two untested blastocysts at the second attempt after first failed blastocyst transfer.

METHODS

Retrospective cohort study at a single academic institution from 2019 to 2022. Patients at 37 years or younger who had a failed first blastocyst transfer were included in the analysis. A sub-analyses of patients <35 and 35-37 were per-

formed. Student's T Test and Fishers exact tests were performed for continuous and categorical analyses. *Sensitivity analyses were performed*

RESULTS

We identified 179 patients with failed first blastocyst transfer who underwent a second single ET (sSET), and 27 subjects who underwent a second double embryo transfer(sDET). Patients in sDET group were significantly older (34[31;35] vs. 34[33;36]), other clinical variables were similar including number or retrieved oocytes, morphology of the transferred blastocysts, endometrial thickness on the day of transfer. There was no difference in the pregnancy rates and the multiple gestation rates among the two groups. In the sub-analysis of the 35-37year old group higher LB rate and higher twin gestation rate was found after sDET. (Table1)

CONCLUSION

Based on the outcomes of our small study, sDET increases the livebirth rate compared to sSET in patients from 35 to 37 years of age. in addition, sDET dramatically increases the risk of twin gestations in this age group. In younger patient population (<35yo) sDET larger number of patients is needed to decrease the potential of type II error.

Patients should be encouraged to adhere to elective single embryo transfer for their second attempt, since double embryo transfer is associated with significant increase in multiple gestations in 35-37yo group. Larger number of participants in needed to avoid type II error.

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