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PREIMPLANTATION GENETIC TESTING FOR ANEUPLOIDY (PGT-A) IS ASSOCIATED WITH HIGHER LIVE BIRTH PER EMBRYO TRANSFER AND LOWER CLINICAL PREGNANCY LOSS IN PATIENTS WHO FREEZE OOCYTES AT AGE 35 AND OLDER

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Title:

PREIMPLANTATION GENETIC TESTING FOR ANEUPLOIDY (PGT-A) IS ASSOCIATED WITH HIGHER LIVE BIRTH PER EMBRYO TRANSFER AND LOWER CLINICAL PREGNANCY LOSS IN PATIENTS WHO FREEZE OOCYTES AT AGE 35 AND OLDER

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Preferred Presentation Type:

Oral or Poster

Study Type:

Retrospective Cohort Study (includes comparator groups)

Category - Subcategory(ies):

Genetics: PGT

Funding:

N/A

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ACCME Disclosure

Nothing to disclose. No off-label or otherwise non-approved product use.

Did this abstract require approval by a local Institutional Review Board (IRB) or equivalent?

This abstract has been approved by a local Institutional Review Board (IRB) or equivalent.

Applying for an award

Trainee: Yes

Abstract Category:

All Other Categories

Applied for the In-Training Award for Research**Abstract Text:**

OBJECTIVE: PGT-A has been shown to improve outcomes in patients undergoing in vitro fertilization at advanced maternal age. However, the benefit of PGT-A for patients freezing oocytes at an older age remains uncertain. This study evaluated outcomes for patients who did or did not use PGT-A on embryos created from oocytes cryopreserved at age 35 years and older.

MATERIALS AND METHODS: This retrospective cohort study was conducted across a large fertility network and included all patients who underwent oocyte cryopreservation (OC) at age 35 years and older and returned for thaw. Oocytes were frozen and warmed from January 2013 to October 2024. Patients who used a gestational carrier were excluded. Patients who did not use PGT-A were compared with patients who used PGT-A. The use of PGT-A was based on physician counseling and patient discretion. The primary outcome was the odds of achieving at least one live birth (LB). Patients with remaining unused oocytes or usable embryos but no LB were excluded from this outcome. Secondary outcomes were number of embryos available for transfer or biopsy, number of embryo transfers (ETs), LB per ET, and spontaneous abortion (SAB) per clinical pregnancy. Statistics included chi square analysis, Wilcoxon rank sum test, logistic regression and generalized linear model with generalized estimating equation.

RESULTS: 1,185 patients were included; 56% (n = 669) underwent PGT-A and 44% (n = 516) did not. Patients who used PGT-A were younger at the time of first OC (median 37.5 years old for PGT-A vs. 38.3 years old for no PGT-A, p <0.001). Patients in the PGT-A group warmed more metaphase 2 (M2) oocytes and had more embryos available for transfer or biopsy (Table 1). On logistic regression adjusting for age at first OC, AMH, BMI, and number of M2s thawed, use of PGT-A was not associated with odds of having at least one LB (OR 1.2; 95% CI [0.8-1.7]). When adjusted for the same variables, PGT-A was positively associated with LB per ET (OR 2.1; 95% CI [1.5-3.0]) and inversely associated with SAB per clinical pregnancy (OR 0.5; 95% CI [0.3-0.9]).

CONCLUSIONS: Patients freezing oocytes at age 35 years and older can be counseled that while PGT-A is not associated with odds of having at least one LB, it is associated with higher LB per embryo transfer and fewer spontaneous abortions per clinical pregnancy.

IMPACT STATEMENT: Use of PGT-A in patients who cryopreserved oocytes at 35 years and older is associated with increased live birth per embryo transfer and fewer spontaneous abortions per clinical pregnancy.

Table 1: Secondary outcomes

PGT-A group	Median # oocytes thawed (IQR)	Median # embryos (IQR)	Median # ETs (IQR)	% LB per ET (n)	% SAB per pregnancy (n)
No PGT-A (n=516)	9 (6, 14)	2 (0, 4)	1 (0, 1)	34.7 (152)	23.5 (58)
PGT-A (n=669)	16 (11, 22)	4 (2, 6)	1 (0, 1)	51.3 (307)	15.2 (67)
P-value	<0.001	<0.001	0.80	<0.001	0.01

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Within the past 2 years, have you or your spouse/partner had any potential COI?

No

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Reproductive Science Center

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Yes

Organization Name	Relationship Type	Who has this Relationship?
Alife	Paid Consultant Relationship Began - Monday, April 8, 2024 Relationship Ended -	Self
Ferring Pharmaceutical	Speaker's Bureau Relationship Began - Saturday, March 1, 2025 Relationship Ended -	Self
Lovu Health	Direct Stockholder Relationship Began - Saturday, June 1, 2024 Relationship Ended -	Self
U. S. Fertility	Direct Stockholder Relationship Began - Saturday, August 1, 2020 Relationship Ended -	Self
USF Pharmaceutical Contracting Alliance	Direct Stockholder Relationship Began - Wednesday, January 1, 2020 Relationship Ended -	Self

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Biographical Sketch Early success, marked by his first publication in CELL at Harvard Medical School, inspired Joseph to continue his research endeavors in reproductive endocrinology and infertility. Joseph has been with Reproductive Medicine Associates of New York since 2011. Joseph has authored over 400 peer-reviewed abstracts & manuscripts. Passionate about development, he cultivates relationship with investors & entrepreneurs to advance reproductive endocrinology & infertility care.

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No

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Organization Name	Relationship Type	Who has this Relationship?
Progyny	Company Officer Relationship Began - Friday, August 25, 2017 Relationship Ended - Thursday, June 1, 2023 Paid Consultant Relationship Began - Relationship Ended - Direct Stockholder Relationship Began - Friday, August 25, 2017 Relationship Ended - Friday, November 1, 2024	Self

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 [Alan B. Copperman M.D. - CV \(March 2024\).docx](#)

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Biographical Sketch Phillip Romanski, M.D., M.Sc., is a Reproductive Endocrinology and Infertility physician at RMA of New York in Manhattan and is a faculty member at the National Institutes of Health. He is an expert in family-building including the evaluation and management of female and male infertility, third-party reproduction, and fertility preservation. Dr. Romanski completed his residency in Obstetrics and Gynecology at Harvard Medical School (Brigham and Women's Hospital/Massachusetts General Hospital) and his fellowship in Reproductive Endocrinology and Infertility at the Weill Cornell Medical Center/NewYork-Presbyterian Hospital. Dr. Romanski additionally serves as the Associate Research Director for US Fertility and has authored over 60 peer-reviewed research publications with a particular interest in patients with a history of unsuccessful treatment and patients with diminished ovarian reserve. In recognition of his research contributions, he has received multiple national awards and has subsequently been invited to speak at both national and international conferences to present his work.

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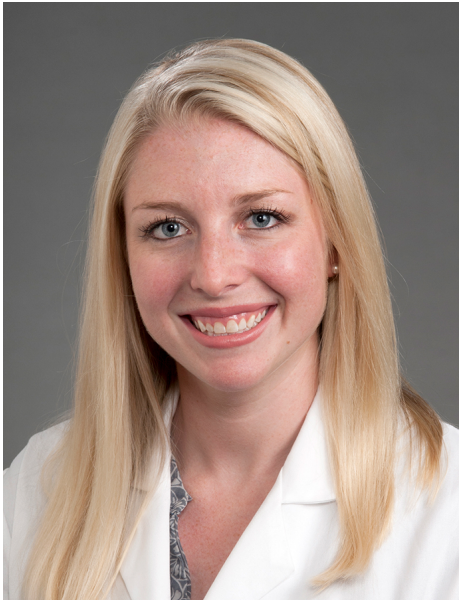
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