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OUTCOMES FOR PATIENTS WHO UNDERWENT OOCYTE CRYOPRESERVATION (OC) AT AGE 35 YEARS AND OLDER: RESULTS FROM A LARGE, MULTI-CENTER COHORT

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Title:

OUTCOMES FOR PATIENTS WHO UNDERWENT OOCYTE CRYOPRESERVATION (OC) AT AGE 35 YEARS AND OLDER: RESULTS FROM A LARGE, MULTI-CENTER COHORT

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Preferred Presentation Type:

Oral or Poster

Study Type:

Retrospective Cohort Study (includes comparator groups)

Category - Subcategory(ies):

Fertility Preservation: Fertility Preservation General

Funding:

N/A

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

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Applying for an award

Trainee: Yes

Abstract Category:

All Other Categories

Applied for the In-Training Award for Research

Abstract Text:

OBJECTIVE: Studies show that patients who undergo OC at an older age freeze fewer oocytes and achieve lower live birth (LB) rates. However, data have been limited by the relatively small number of patients returning for thaw, particularly those who froze in their late 30s and early 40s. This study describes outcomes for a large cohort of patients who underwent OC at aged 35 years and older. Findings can improve counseling for patients considering OC at advanced maternal age.

MATERIALS AND METHODS: This retrospective cohort study includes patients who underwent OC at age 35 years and older across a large fertility network and returned for thaw. Oocytes were vitrified and warmed from January 2013 to October 2024. Patients were included if all OC cycles were within 12 months and only metaphase 2 (M2) oocytes were cryopreserved. Patients using a gestational carrier were excluded. The primary outcome was the odds of achieving at least one LB. Patients with remaining oocytes or usable embryos but no LB were excluded from this outcome. Secondary outcomes were number of embryo transfers (ETs) and euploid embryos per patient, LB per ET, and spontaneous abortion (SAB) per clinical pregnancy. Statistical analysis included chi-square, Kruskal-Wallis, and logistic regression.

RESULTS: 1,185 patients were included (838 for primary outcome) (Table 1). The median number of years between first OC cycle and first thaw was 3.2 (interquartile range (IQR): 1.7-4.9). Overall, 88.7% of oocytes survived warming and 56% of patients used preimplantation genetic testing for aneuploidy. The odds of achieving at least one LB were higher for patients aged 35-37 years old (yo) (referent group) compared to 38-40 yo (OR 0.5; 95% CI [0.4-0.7]), 41-42 yo (OR 0.26; 95% CI [0.1-0.5]), and >42 yo (OR 0.15; 95% CI [0.06-0.4]). Across all ages, the odds of LB decreased by 21% per year, relative to the prior year (OR 0.79; 95% CI [0.74-0.84]).

CONCLUSIONS: Patients can be counseled that odds of LB decrease with age. However, after thawing a median of 8 oocytes, 13% of patients who cryopreserved above 42 years of age in our study achieved at least one LB.

IMPACT STATEMENT: To our knowledge, this study represents the largest cohort of returning OC patients who froze at age 35 years and older. Results can be used to support decision making for patients considering fertility preservation at advanced maternal age.

Table 1: Study outcomes

Age at 1st OC cycle	Median # M2s thawed (IQR)	Median # ETs (IQR)	Median # euploid embryos (IQR)	% patients with at least 1 LB (n)	% LB per ET (n)	% SAB per pregnancy (n)
35-37 yo (n = 622)	14 (9, 21)	1 (0, 1)	2 (1, 4)	49.1 (198)	46.6 (287)	16.9 (70)
38-40 yo (n= 420)	12 (8, 19)	1 (0, 1)	1 (0, 2)	32.5 (100)	42.9 (146)	18.1 (41)
41-42 yo (n= 93)	10 (7, 15)	1 (0, 1)	1 (0, 1)	20.2 (16)	34.5 (20)	27.8 (10)
>42 yo (n= 50)	8 (6, 11)	0 (0, 1)	0 (0, 0)	12.8 (6)	27.3 (6)	36.4 (4)
P-value	<0.001	<0.001	<0.001	<0.001	0.03	0.36

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

No

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Michelle Bayefsky CV Feb 2025.pdf

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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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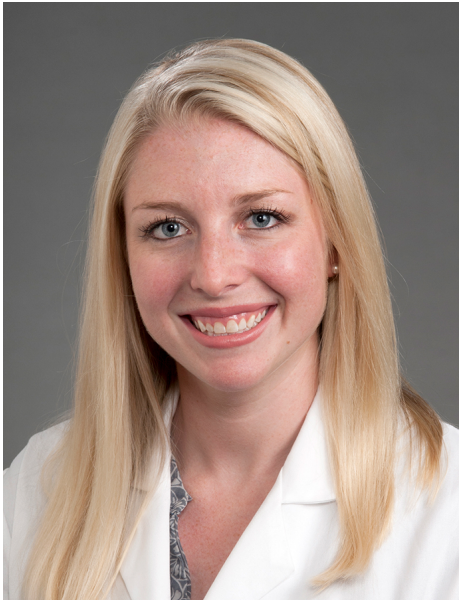
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