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COMPARISON OF RANDOM START CONTROLLED OVARIAN STIMULATION WITH STANDARD START IN LETROZOLE GONADOTROPIN CYCLES FOR FERTILITY PRESERVATION IN WOMEN WITH BREAST CANCER. G. Bedoschi,[a] V. Turan,[a] V. Emirdar,[a] M. Sonmezer,[b] K. H. Oktay.[a] [a]New York Medical College, Valhalla, NY; [b]Ankara University, Ankara, Turkey.

OBJECTIVE: When women are referred for fertility preservation prior to chemotherapy, there may not be sufficient time to await menstruation to initiate ovarian stimulation for embryo or oocyte freezing. In these patients, random start controlled ovarian stimulation (RSCOH) may be an alternative. Our aim was to compare the cycle characteristics and outcomes of RSCOH in the late follicular or luteal phase of the menstrual cycle to the outcomes of standard start (early follicular) controlled ovarian hyperstimulation (SSCOH) cycles in women with breast cancer.

DESIGN: Secondary analysis of prospectively collected database in an academic center

MATERIALS AND METHODS: One hundred and fifty women who underwent SSCOH and 14 who underwent RSCOH for oocyte and/or embryo cryopreservation before breast cancer chemotherapy were included. Ovarian stimulation was performed with concurrent gonadotropin and letrozole-5 mg treatment; an antagonist was added when there was a follicle>13-mm. Either hCG or leuprolide acetate was used for trigger.

RESULTS: RSCOH was initiated either in the late follicular (50%) or luteal phase (50%). The mean age was similar between the groups (RSCOH vs SSCOH: 34.9 ± 4.5 vs. 32.5 ± 5.5 years, respectively; p = 0.09). Total dose of gonadotropins was significantly higher in the RSCOH group (4070.4 ± 1968.1 vs. 2735.5 ± 1219.0 IU, respectively; p < 0.041). Maturation and fertilization rates were similar between the groups. The mean number of mature oocytes was significantly higher in the RSCOH group (10.7 ± 6.6 vs. 9.9 ± 4.0; p=0.039). The mean number of oocytes retrieved (16.1 ± 7.2 vs. 14.3 ± 9.3, respectively; p = 0.073), and embryos cryopreserved (8.5 ± 2.7 vs. 7.1 ± 5.5, respectively; p = 0.053) trended higher in women undergoing RSCOH.

CONCLUSIONS: Our data indicate that the fertility preservation cycle outcomes with RSCOH are not inferior to those with SSCOH. Further follow up and larger prospective studies are required to determine the pregnancy success rates of RSCOH in comparison to SSCOH cycles.

Cycle Characteristics and Outcomes.

	Random start (n=14)	Standart start (n=150)	P value
Total letrozole dose (mg)	54.5 ± 15.2	51.4 ± 9.2	0.025
Total FSH dose (IU)	4070 ± 1968	2735 ± 1219	0.041
Ovarian stimulation length (days)	11.0 ± 2.8	11.6 ± 1.7	0.057
E2 level on trigger day (pg/mL)	678.3 ± 434.1	595.9 ± 410.0	0.575
No. of total oocytes	16.1 ± 7.2	14.3 ± 9.3	0.073
No. of mature oocytes	10.7 ± 6.6	9.9 ± 4.0	0.039
Maturity rate (%)	69.2 ± 18.8	73.5 ± 21.2	0.329
Fertilization rate (%)	80.1 ± 30.5	72.3 ± 27.6	0.909
No. of embryos frozen	8.5 ± 2.7	7.1 ± 5.5	0.053

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FERTILITY PRESERVATION CHOICES & OUTCOMES OF WOMEN WITH ADVANCED STAGE CANCERS. K. L. Palmerola,[a] J. M. Choi,[b] M. V. Sauer.[b] [a]Columbia University Medical Center, New York, NY; [b]Columbia University, New York, NY.

OBJECTIVE: To assess fertility preservation (FP) decisions and outcomes from assisted reproductive technologies (ART) in newly diagnosed advanced stage (stage III or IV) cancer patients.

DESIGN: Restrospective case control

MATERIALS AND METHODS: Patients (n=26) presenting to a single academic center for FP following a diagnosis of advanced stage cancer (stage III or IV) between 2007 and 2015 were studied. Women identified as cancer survivors were excluded. Demographic information, ART cycle data, and ART outcomes were collected. FP decisions and outcomes were compared with randomly selected, age-matched patients with stage I or II cancer undergoing ART during the same period. Mann-Whitney rank sum tests were used for analysis.

RESULTS: 26 patients with stage III or IV cancer presented for fertility evaluation between September 2007 and March 2015. 9 (34.6%) patients were cancer survivors and excluded from analysis. Of the 17 included patients, 9 (52.9%) were diagnosed with a stage III cancer (5 breast, 2 ovarian, 1 hematologic, 1 lung) and 8 (47.1%) with a stage IV cancer (3 hematologic, 3 gastrointestinal/colorectal, 2 breast). 5 (29.4%) patients pursued FP, collectively undergoing 6 treatment cycles. The stage III/IV patients who pursued FP demonstrated no statistically significant differences in baseline E2, FSH, MIS levels, number of days of stimulation, total gonadotropins prescribed, peak estradiol level, number of oocytes retrieved and fertilized, number of embryos or oocytes cryopreserved or cycle cancellations compared to stage I/II cancer patients. There were no complications from FP in these patients. Advanced directive status was available for 3 of the 5 patients who pursued FP. All 3 patients chose to discard unfertilized or cryopreserved eggs; 2 patients opted to donate cryopreserved embryos to research; 1 patient opted to donate cryopreserved embryos to other patients. Further information was available for 8 of the 12 patients who did not pursue FP: 6 opted to defer infertility treatment until after cancer treatment; 1 was recommended by their oncologist not to delay cancer therapy; 1 had metastases to her ovaries, and thus a concern that FP may worsen her disease status.

Comparison of Stage I/II vs. Stage III/IV Fertility Preservation Cycle Outcomes.

	Stage I/II (medians)	Stage III/IV (medians)	P-value
Age (years)	32	33	0.341
Baseline FSH (mIU/mL)	5.05	4.46	0.367
Baseline E2 (pg/mL)	40.6	46.2	0.176
AMH (ng/mL)	1.275	0.63	0.288
Days of Stimulation	10	11	0.078
Total Gonadotropins (IU)	4050	4500	0.123
Peak E2 (pg/mL)	1122	1429	0.397
Total # oocytes retrieved	13	12	0.484
MII	8	10	0.33
Fertilization Rate	71.4%	76.8%	0.409
Cancellations	0	0	-

CONCLUSIONS: Despite the potential poor prognosis associated with advanced cancer, this rare cohort of patients may expect similar fertility preservation outcomes to their earlier staged counterparts. Regardless of cancer stage, all patients are candidates for fertility preservation, though prognosis and advanced directives must be discussed before initiating care.

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OUTCOMES OF UTILIZED CRYOPRESERVED AUTOLOGOUS OOCYTES. J. P. Alvarez,[a,b] A. I. Akopians,[a,b] E. T. Wang,[a] D. L. Hill,[c] J. Barritt,[c] M. Surrey,[d,c] H. Danzer,[d,c] M. D. Pisarska.[a] [a]Cedars Sinai Medical Center, Los Angeles, CA; [b]UCLA, Los Angeles, CA; [c]ART Reproductive Center, Beverly Hills, CA; [d]Southern California Reproductive Center, Beverly Hills, CA.

OBJECTIVE: Oocyte cryopreservation is a rapidly developing technology with reassuring outcomes from observational studies. However, there are limited studies on utilization of cryopreserved oocytes. Thus, our objective was to compare outcomes in women who returned to utilize their previously cryopreserved oocytes to IVF cycles that utilized frozen embryos.

DESIGN: Retrospective cohort study from a large fertility center.

MATERIALS AND METHODS: Women who underwent autologous oocyte cryopreservation for both medical and elective indications between 1/2010 and 12/2014 and returned to utilize their cryopreserved oocytes were selected. Oocyte cryopreservation was performed either by slow freeze or vitrification. Oocyte donation cycles were excluded. The control group consisted of women who underwent IVF-freeze all cycles followed by a frozen embryo transfer (FET) during the same time period. Clinical outcomes of interest included number of mature oocytes, fertilization rate, blastocyst progression (number of blastocysts per mature oocyte), and pregnancy rate. Statistical analysis was performed using a student t test for continuous variables and a fisher exact test for categorical variables.

RESULTS: Of 523 patients who underwent autologous oocyte cryopreservation, 29 (5.5%) returned to utilize their cryopreserved oocytes. The mean age at oocyte cryopreservation was 37.3 ± 4.5 years (range of 24-44), which was comparable to the control group (P =0.24). The mean duration of cryopreservation was 478.9 days with a range of 76-880 days. The oocyte cryopreservation group had a similar number of mature oocytes (10.5 ± 7.2 vs 13.1 ±8.1 P= 0.08) and fertilization rate (69% ±24.3 vs 73.7% ± 20.14