STRAIGHT START ANTAGONIST PROTOCOL HAS SIMILAR OUTCOMES COMPARED TO PRETREATMENT ORAL CONTRACEPTIVE FOR ELECTIVE OOCYTE CRYOPRESERVATION IN PATIENTS WITH LOW ANTI-MULLERIAN HORMONE (AMH)

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Background: Outside of luteal estradiol priming and luteal GnRH agonist protocols, there are limited studies thus far that have examined pretreatment practices for women with diminished ovarian revere (DOR) for maximizing oocyte yield. Pretreatment with combined oral contraception (COC) might synchronize ovarian follicles but also might theoretically suppress the ovaries for stimulation. With “straight start” protocol, although the ovaries might not be suppressed, the follicles might not have synchronized growth and thus increase cycle cancellation and lower oocyte yield.

Objective: Identify differences in oocyte yield and maturity for patients undergoing elective cryopreservation with low AMH who have precycle combined oral contraception (COC) vs no precycle medications or “straight start”.

Material and Methods: We identified patients with AMH <1.1ng/ml and unknown fertility who underwent elective oocyte cryopreservation with antagonist stimulation protocol and who received precycle COCs vs straight start from Jan 2015 – Dec 2022. The number of oocytes retrieved and mature oocytes were the primary outcome measures. Cycle cancellation was the secondary outcome. Subgroup analysis was performed on those with very low AMH <0.5ng/ml.

Result(s): A total of 2,911 subjects met inclusion criteria. Of the cohort, 706 (24.3%) had precycle COCs and 2,205 (75.7%) were straight start. The COC group was older with a higher AMH and greater estradiol (E2) on day of trigger (Table). Univariate analysis showed a higher number of oocytes from the straight start cohort (13.39 ± 10.7) vs pretreatment COCs (12.11 ± 8.48; $p < 0.001$). However, after adjusting for age, AMH, and E2 on day of trigger, there was no significant difference between the two cohorts in number of oocytes ($p=0.23$), mature oocytes ($p=0.6$), or cycle cancellation ($p = 0.13$). Findings were similar in sub-analysis in those with AMH <0.5, with no difference in oocyte number (5.4±4.11 vs 5.89±4, $p=0.72$), maturity (2.47±3.21 vs 3.20±3.54, $p =0.38$), or cycle cancellation ($p = 0.38$).

Conclusion(s): In patients with low AMH undergoing elective oocyte cryopreservation, the difference in number of oocytes retrieved, oocyte maturity, and cycle cancellation rates with pretreatment COCs vs straight start were not statistically significant. These outcomes were also substantiated in those with very low AMH. Our data gives reassurance that there are no differences in outcomes for patients undergoing precycle COCs vs no medications for elective oocyte cryopreservation. The decision regarding pretreatment medications in these cycles should be based on physician, clinic, and patient discretion.

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	Pretreatment COCs ± (SD) n= 706	Straight start ± (SD) n=2205	P-value	Adjusted P-value*
Age	35.91 (3.86)	35.21 (5.10)	<0.001	--
BMI	25.31 (4.82)	25.07 (4.79)	0.102	--
AMH	0.66 (0.28)	0.63 (0.29)	0.011	--
AFC	12.67 (8.74)	12.62 (11.19)	0.893	--
FSH	9.41 (5.18)	9.43 (6.58)	0.956	--
Max gonadotropin dose	308.83 (89.68)	313.76 (121.60)	0.167	--
E2 on day of trigger	3016.67 (1663.02)	2798.63 (1738.20)	<0.001	--
Cycle cancellation	117 (8.6%)	481 (10.6%)	0.036	0.13
# oocytes retrieved	12.11 (8.48)	13.39 (10.73)	<0.001	0.23
# MII oocytes	7.63 (6.72)	8.11 (8.51)	0.060	0.64

*adjusted for age, AMH, E2 on day of trigger