Title: POST TRIGGER LABS CAN BE INTERPRETTED SIMILARLY IN ORAL PROGESTIN SUPPRESSED IVF PROTOCOL

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Background
Progestin-suppressed IVF cycles are gaining popularity secondary to efficacy, improved logistics and patient satisfaction. Using progestin to prevent ovulation affects progesterone (P4) levels during stimulation, but it is unknown if post-trigger labs (LH and P4) are affected by use of a progestin during stimulation.

Objective
The goal of this study was to compare post GnRH-agonist trigger LH and progesterone levels in patients undergoing oral progestin vs. GnRH antagonist IVF stimulation cycles.

Materials and Methods
At two academic-affiliated private centers, data was collected prospectively on patients aged 18-44 years undergoing autologous medroxyprogesterone acetate (MPA) and antagonist IVF cycles between January 2021- August 2024. Patients who had serum post-trigger labs (LH and P4) were divided into three groups: MPA GnRH-a only (center 1), Antagonist GnRH-a only (center 1), and Antagonist GnRH-a plus ≤2500 units hCG dual trigger cycles (center 2). The primary outcomes were LH and P4 levels with secondary outcomes including cycle yield. Successful trigger was considered with P4 >3.0 ng/ml and LH > 20 IU/ml. Student's t-test and Chi-squared test were used as appropriate between groups and ANOVA among groups with $p<0.05$ considered significant.

Results
There were a total of 220 MPA GnRH-a only, 110 Antagonist GnRH-a only, and 135 Antagonist dual trigger cycles. As expected, patients who underwent a cycle with GnRH-a only trigger cycles had higher AMH values. One patient in the dual trigger group failed and needed to be triggered again. There were significant differences in the LH and P4 levels between among groups, but all were above the threshold of confirmed trigger success. Oocytes retrieved, mature oocytes (M2) and usable euploid blastocysts were similar between groups (Table 1).

Table 1	MPA GnRH-a only (n = 220)	Antag GnRH-a only (n = 110)	Antag Dual Trigger (n = 135)	P-value
Age	33.3 +/- 4.5	33.4 +/- 4.5	31.6 +/- 5.3	0.001
AMH	6.2 +/- 5.1	8.1 +/- 6.2	4.7 +/- 2.6	<0.01
BMI	26.1 +/- 6.0	26.4 +/- 5.7	24.5 +/- 4.3	0.01
E2 (pg/ml)	5276 ± 2146	5025 +/- 1647	5013 +/- 2092	0.39
LH (IU/ml)	70.6 +/- 33.6	60.8 +/- 31.7	34.2 +/- 20.6	<0.01
P4 (ng/ml)	10.0 +/- 4.6	12.1 +/- 5.9	9.7 +/- 3.6	<0.01
Oocyte (n)	24.5 ± 11.8	26.4 +/- 10.9	24.2 +/- 7.3	0.20
MII (n)	18.1 ± 8.7	19.9 +/- 8.4	18.9 +/- 6.7	0.23

2PN (n)	13.5 ± 8.1	16.0 +/- 7.8	14.3 +/- 5.9	0.03
Blastocysts (n)	7.4 ± 5.3	9.9 +/- 5.7	8.9 +/- 5.2	0.01
Euploid blastocysts (n)	3.7 ± 2.9	4.7 +/- 3.3	3.9 +/- 2.9	0.09

Conclusions
Post trigger labs (LH and P4) are affected by the use of an oral progestin during stimulation but result in similarly adequate values over threshold when compared to an antagonist protocol. As practices gain familiarity with the protocol, sharing nuances can be helpful to other practices looking to implement the protocol.

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