



Number of Vitrified Blastocysts and Oocytes are Clinically Similar When Using a GnRH Antagonist or Progesterin for Ovulation Suppression

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INTRODUCTION

Use of **progesterin** to suppress ovulation in ovarian stimulation is

- Patient friendly
- Low-cost
- Requires freeze only approach

Clinical outcome data for progesterin protocols is promising but **limited**

OBJECTIVE

An **en masse protocol** change was made on January 1st 2025 from Antagonist to Progesterin for ovulation suppression for freeze only cycles, **approximating an RCT**

We sought to compare the number of M2 oocytes and vitrified blastocysts between protocol types

METHODS

- Compared **all 2024** Antagonist cycles to **all 2025** Progesterin cycles
- **Inclusion criteria**
 - Planned freeze only cycles
- **Exclusion criteria**
 - Fresh transfers
- **Clinical Outcomes:**
 - Retrieved oocytes
 - M2 oocytes
 - Number of 2PNs and fertilization rate
 - Number of blastocysts and blastulation rate
 - Number of euploid blastocysts and euploidy rate
- **Analysis**
 - ANCOVA to evaluate differences in cycle characteristics
 - Generalize linear model with Poisson regression to estimate outcomes,
 - Chi-square test to compare differences in categorical variables

- Included **1243** cycles: **685** Antagonist and **558** Progesterin
- Progesterin protocols had **shorter** treatment lengths, **fewer** monitoring visits, and **lower** total gonadotropins after controlling for patients' age, BMI, and fertilization method
- Progesterin protocols had **more** retrieved and vitrified oocytes
- Similar fertilization and blastulation rates when controlled for age, AMH, fertilization method, and BMI

Baseline Characteristics

	Antagonist	Progesterin	p value
Age	35.77 (3.85)	35.74 (3.70)	0.40
BMI	25.67 (4.89)	25.88 (4.78)	0.30
AMH	3.04 (3.00)	2.74 (2.28)	0.37 ¹
AFC	19.58 (11.60)	18.78 (10.75)	0.07 ¹

Table 1: Baseline Characteristics reported as mean (standard deviation), calculated with AnCOVA adjusted for age and BMI

Cycle Characteristics

	Antagonist	Progesterin	Adjusted p value
Number of monitoring visits	6.77 (1.21)	6.33 (1.27)	<0.01
Duration of Stimulation (days)	11.54 (1.99)	11.12 (4.62)	<0.01
Total dose of gonadotropins (IU)	4,517 (2,125)	4,189 (1,955)	0.11

Table 2: Cycle Characteristics reported as mean (standard deviation), calculated with AnCOVA adjusted for age, BMI, and fertilization method

DISCUSSION & CONCLUSIONS

Progesterin protocols are a patient-friendly alternative that do not compromise clinical outcomes

RESULTS

Clinical Outcomes

	Antagonist	Progesterin	Adjusted relative risk	P difference
Number of oocytes retrieved	16.47 (16.17, 16.78)	16.84 (16.51, 17.19)	1.05 (1.03, 1.08)	<0.01
Number of M2s	12.28 (12.01, 12.55)	12.48 (12.17, 12.8)	1.07 (1.03, 1.10)	<0.01
Number of 2PNs	8.98 (8.68, 9.29)	8.87 (8.54, 9.22)	1.05 (1.0, 1.11)	0.08
Fertilization rate (ICSI)	0.76 (0.73, 0.78)	0.75 (0.71, 0.78)	0.983 (0.93, 1.04)	0.77
Number of blastocysts	4.54 (4.33, 4.76)	4.58 (4.35, 4.83)	1.06 (0.98, 1.14)	0.12
Blastulation rate	0.5 (0.48, 0.53)	0.52 (0.49, 0.54)	1.03 (0.95, 1.10)	0.51
Number of euploid blastocysts	2.55 (2.37, 2.74)	2.48 (2.29, 2.69)	1.01 (0.90, 1.13)	0.86
Euploidy rate	0.5 (0.46, 0.54)	0.5 (0.46, 0.54)	1.027 (0.92, 1.15)	0.65

Table 3: Clinical Outcomes generalized linear model with Poisson regression adjusted for age, AMH, BMI, and fertilization method

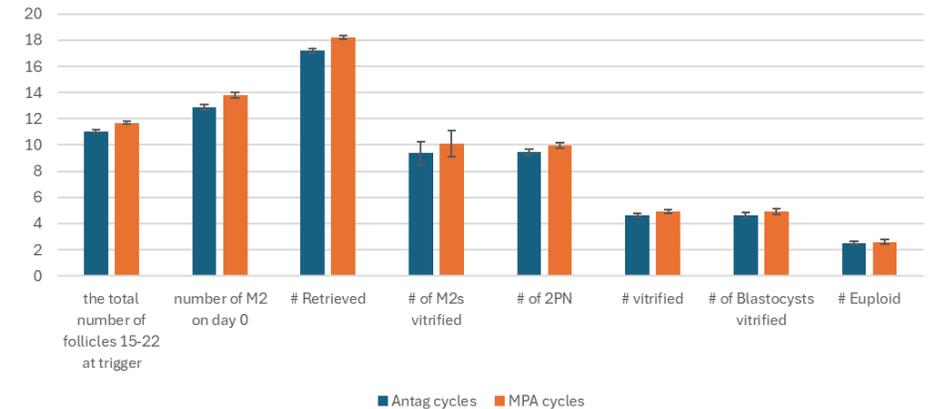


Figure 1: Clinical Outcomes generalized linear model with Poisson regression adjusted for age, AMH, BMI, and fertilization method