PROGESTERONE PRIMED STIMULATED CYCLES VERSUS FIXED ANTAGONIST PROTOCOL IN INTRACYTOPLASMIC SPERM INJECTION CYCLES

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Introduction

To maximize the likelihood of a successful outcome, the procedures utilized for ovulation stimulation during assisted reproductive techniques (ART) attempt to retrieve the maximum number of oocytes. To prevent an early luteinizing hormone (LH) peak and ovulation before oocyte extraction, gonadotropin-stimulating hormone (GnRH) antagonists or agonists are frequently added. Available evidence suggests that progesterone-primed ovarian stimulation (PPOS) provides a similar number of oocytes retrieved and pregnancy rate per transfer compared with the GnRH antagonist protocol.

Aim of the work

This study aims to compare progesterone-primed stimulated cycles and fixed antagonist protocol in intracytoplasmic sperm injection (ICSI) procedures when applying the freeze-all and blastocyst transfer strategy. Primary aim: Clinical Pregnancy Rate at the first ET (Blastocyst).

Secondary aim: The mean metaphase of meiosis II (MII) retrieved oocytes, rate of fertilization, rate of blastocyst formation, average length of stimulation, and average gonadotropin dosage.

Patients and Methods

This prospective randomized controlled trial (RCT) included 2 groups of 180 women, (90 each); recruited from the infertility unit at El Shatby University Hospital in collaboration with private IVF centers in Alexandria. All patients were undergoing ICSI and frozen embryo transfer (FET). Patients were subjected to either; group I [Progesterone primed ovarian stimulation (PPOS)] or group II [Gonadotropin-releasing hormone antagonist (GnRH anta) protocol], through a random computerized allocation system; to compare between progesterone primed stimulated cycles and fixed antagonist protocol in intracytoplasmic sperm injection (ICSI) procedure when the freeze-all and blastocyst transfer strategy is applied.

Results

Table (1): Comparison between the two studied groups regarding chemical and clinical pregnancy.

	Group I "Antagonist" "n=90"		Group II "Progesterone" "n=90"		X^2 test P value
	No	%	No	%	
Pregnancy Test					1.82
Negative	46	51.1	49	54.4	0.328
Positive	44	48.9	41	45.6	N.S.
Clinical pregnancy					1.98
Negative	59	65.6	64	71.1	0.213
Positive	31	34.4	26	28.9	N.S.

X^2 = Chi-square test
p was significant if ≤ 0.05
N.S. = not significant

Table (2): Comparison between the two studied groups regarding the quality of embryos.

Embryo quality	Group I "Antagonist" "n=1111"		Group II "Progesterone" "n=714"	
	No	%	No	%
A	554	49.86	395	55.3
B	394	35.46	284	39.8
C	163	14.67	35	4.9
Total#	1111	100%	714	100
X^2	3.25			
P value	0.048*			

X^2 = Chi-square test
p was significant if ≤ 0.05
*. = significant difference
#Total number of oocytes

Conclusion

Progesterone-primed stimulated cycles (PPOS) have parallel ongoing pregnancy rates compared to a fixed antagonist protocol for ovarian stimulation in females undertaking ICSI. About embryo quality; the progesterone group demonstrated a significantly higher percentage of Class A embryos than the Antagonist group.