

Introduction

Poor ovarian reserve (POR) significantly limits the effectiveness of infertility treatments. Ovarian reserve assessment is vital for predicting the success of pregnancy following infertility treatments. The response to ovarian stimulation can partly reflect the success of IVF. Women who respond well to controlled ovarian hyperstimulation (COH) have a higher chance of pregnancy and live birth. Pretreatment with oral contraceptive pills (OCPs), progesterone, or ethinyl estradiol is used to improve follicular synchronization, prevent premature ovulation, and better schedule cycles. Ovarian stimulation protocols using GnRH analogs, both agonists and antagonists, come with drawbacks such as increased cost, daily injections, patient inconvenience, and potential adverse effects. Recent developments have introduced oral progesterone as a viable alternative to GnRH analogs for preventing LH surges.

Aim of the Work

The aim of the present study was to evaluate the efficacy of Progestin primed ovarian stimulation protocol versus GnRH antagonist protocol in low ovarian reserve patients undergoing ICSI cycles.

Patients and Methods

This is prospective study which will be conducted on 60 patients subdivided in two groups:

- First group:** 30 patients undergoing PPOS protocol.
- Second group:** 30 patients undergoing GnRH antagonist protocol.

This was a prospective study of 60 women who underwent COH for Intracytoplasmic sperm injection (ICSI).

- Group I: undergo PPOS while Group II undergo GnRH antagonist.
- Baseline scan at 2nd day of the menstrual period to exclude any follicles >12 mm or ovarian pathology (ovarian cyst) that would debar ovarian stimulation.

- Group I:** Start by dydrogesterone 20 mg/day (Duphaston 10 mg tab / 12 hour) at 2nd day of menstrual cycle plus HMG (450 IU)were administered simultaneously beginning at 2nd day of the menstrual cycle, then triggering by HCG (10000 IU)
- Group II:** Start by HMG (450 IU) at 2nd day of menstrual cycle then GnRH antagonist (cetorelix 0.25 mg) by:
- Fixed protocol: start GnRH antagonist (cetorelix 0.25 mg) subcutaneous injection daily at day 6 of induction at the same time till the time of triggering by HCG (10000 IU).

Results

Table 1: Distribution of the studied cases according to abortion and cancellation rates in each study group.

Measurement	Group I (n= 30)	Group II (n= 30)	x ²	p-value
Abortion Number (%)	4 (13.3%)	4 (13.3%)	3.52	0.63
Cancellation Number (%)	20 (100.0%)	19 (100.0%)	3.34	0.77
- No oocytes retrieved	3 (15.0%)	1 (5.26%)		
- Failed Embryo	3 (15.0%)	4 (21.05%)		

(x²) chi-square test; (p-value) value of probability.

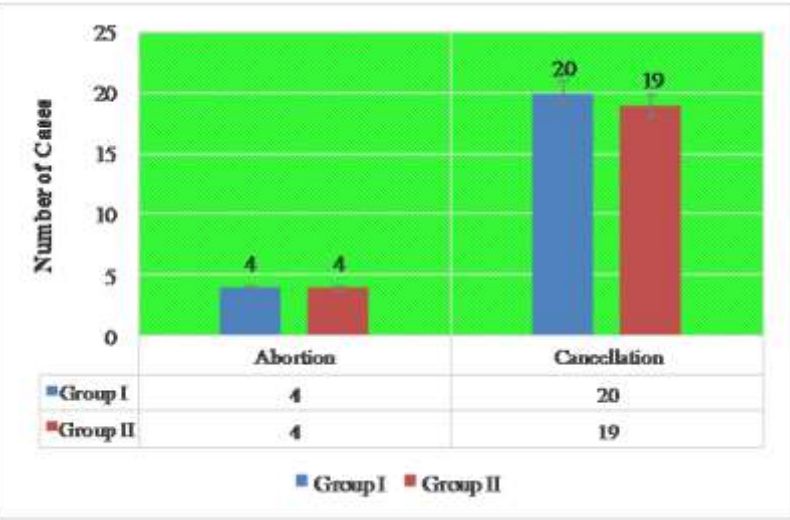


Figure 1: Abortion and cancellation rate of both study groups.

Table 2: Distribution of the studied cases according to number of ongoing pregnancies in each study group.

Measurement	Group I (n= 30)	Group II (n= 30)	x ²	p-value
Number of Ongoing Pregnancies				
Yes	4 (13.3%)	7 (23.3%)	4.26	0.73
No	26 (86.7%)	23 (76.7%)		

(x²) chi-square test; (p-value) value of probability.

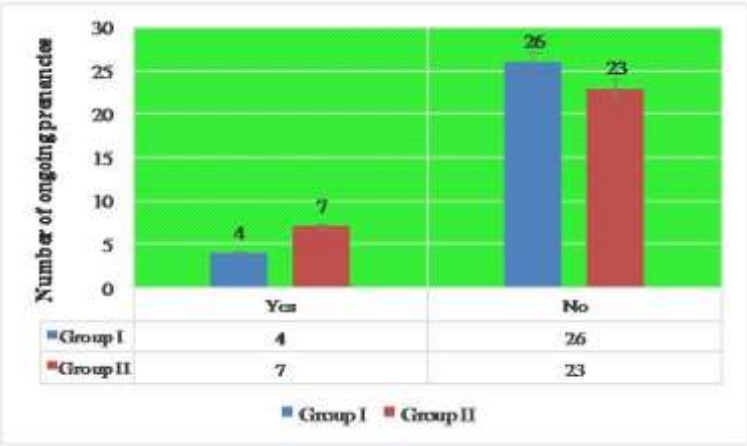


Figure 2: Number of ongoing pregnancies of both study groups.

Conclusion

While both treatment protocols yielded comparable results in terms of pregnancy rates, number of gestational sacs, abortion and cancellation rates, and number of ongoing pregnancies, each approach may offer distinct advantages and considerations. The findings underscore the importance of individualized treatment strategies tailored to patient characteristics and preferences.