

# PITUITARY SUPPRESSION WITH GNRH AGONIST IN ALTERNATE DAYS: CAN COSTS, EFFECTIVENESS AND COMFORT BE BROUGHT TOGETHER?



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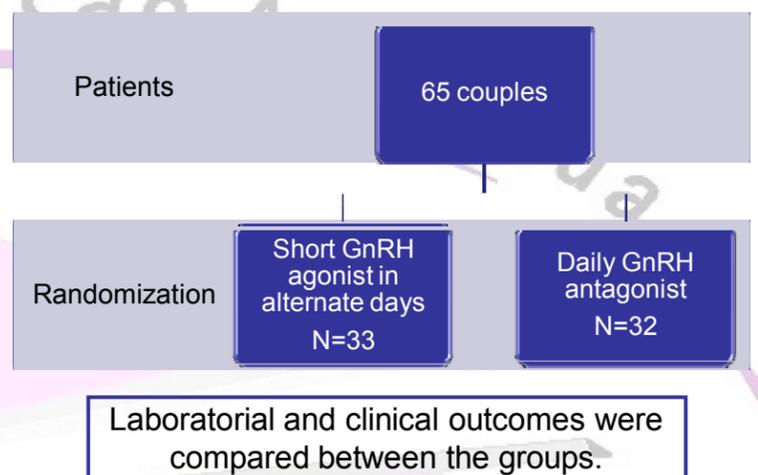
## INTRODUCTION

Since the introduction of in vitro fertilization (IVF), its indications have been widened and the number of patients resorting to this technique has been increasing. Nonetheless, it is likely that many infertile couples do not seek or discontinue treatment because of limited financial resources. Therefore, the development of cost-saving treatment strategies is of pivotal importance in order to offer an affordable infertility treatment to couples in a less favorable economic situation. One possible variation in IVF costs can be attributed to different ovarian stimulation protocols. The optimum position of an experimental treatment would be to save costs, have similar effectiveness and duration relative to a comparator. It is well known that the GnRH antagonist treatment significantly shorter than the agonist schedule. As an attempt to bring costs, effectiveness and comfort together; we compared the results of IVF cycles in which pituitary suppression was achieved using a short GnRH agonist in alternate days with the results of cycles blocked using a daily GnRH antagonist protocol.

## MATERIAL AND METHODS

This prospective randomized study included 65 couples undergoing intracytoplasmic sperm injection (ICSI) cycles defrayed by our educational and research center in assisted reproduction, from July 2009 to October 2010. Inclusion criteria were: female age  $\leq 35$  years, body mass index  $\leq 30$  kg/m<sup>2</sup>; basal FSH  $<10$  mIU/mL; eumenorrheic cycles and absence of stage III/IV endometriosis. Patients were randomly allocated to receive one of two pituitary suppression protocols (Figure 1). Apart from this approach, both protocols were exactly the same. In order to synchronize the cycles, all the patients received oral contraceptives before ovarian stimulation with recombinant FSH. A recombinant hCG microdose (200IU) was concomitantly administered for 2 days, starting between days 7-9. After that, the microdose was administered alone until the day of ovulation trigger.

Figure 1. Illustration of patients' randomization



## RESULTS

Cycles' general characteristics and ICSI outcomes are shown in Table 1.

Variable	GnRH agonist	GnRH antagonist	p value
Female age	30.3 $\pm$ 2.7	29.8 $\pm$ 3.2	0.4372
Total dose of FSH administered (IU)	1316 $\pm$ 229.7	1440 $\pm$ 316.0	0.0940
Number of follicles	21.4 $\pm$ 15.8	19.2 $\pm$ 10.9	0.5205
Oocyte recovery rate (%)	74.5	66.2	0.0478
Fertilization rate (%)	72.6	82.6	0.1197
Implantation rate (%)	26.4	24.2	0.8512
Pregnancy rate (%)	44.8	42.4	0.8490
Miscarriage rate (%)	23.1	14.3	0.6483
Total pituitary suppression cost (\$)	125.4 $\pm$ 14.0	606.5 $\pm$ 102.6	$<0.0001$

## CONCLUSION

In this study, treatment with GnRH agonist in alternate days was found to be as effective as with GnRH antagonist. It was also observed that GnRH agonist treatment increases oocyte yield. Furthermore the GnRH agonist treatment is significantly less costly than antagonist treatment. Costs, effectiveness and comfort can be brought together using GnRH agonist treatment in alternate days, allowing the delivery of additional ART cycles in developing countries.