Summery

The first in vitro fertilization (IVF) therapies were performed in natural unstimulated IVF cycles. Nowadays, gonadotropins are given to induce multiple follicular development.

Objective

This work was done to compare the GnRH antagonist with the GnRH agonist in COH regarding quantity and quality of oocytes.

Patient and method

Fifty healthy infertile couples were divided in two groups:

Group1. Patients will take GnRH agonist ***Triptorelin (Decapeptyl) 0,1 mg*** from 21th day of previous menstrual cycle until follicle pick up which will be done when follicles size reach from (18-20mm).

Group2. Patient will take GnRH antagonist ***cetrorelix (Cetrotide) 0.25 mg*** from 7th day of the menstrual cycle until follicle pick up which will be done when follicles size reach from (18-20mm).

Pure FSH (r-FSH) puregon, Organon 100 IU will be taken in both groups from 2nd day of the cycle and the dose will be determined according to the growth of follicles.

After 34 h in both groups, Retrieval of follicles by vaginal US, identification by stereomicroscope, incubation for half an hour and dissection of OCC complex was done, the MII oocytes were injected by sperm under inverted microscope .

After 16-18h, fertilization was assessed for the presence of pronuclei, after 48 h from ICSI, embryos were identified, graded and then

transferred to the patient, after 15 days from retrieval, serum HCG was done to identify the pregnancy.

Result

There were no significant differences in the clinical criteria of patients regarding age, BMI, basal FSH, LH, E2 and causes of infertility, so the two groups were matched.

There were higher significant differences in the GnRH agonist protocol regarding the duration of induction, the number of r- FSH ampoules, the number of follicles at retrieval and the number of oocytes retrieved.

There were no significant differences between both groups regarding the laboratory criteria (quality of oocytes, fertilization, cleavage, the incidence of good quality embryo) and pregnancy rates.

Conclusion

From this study we can conclude that GnRH antagonist protocol shows the following:

- Significantly shorter stimulation time.
- Significantly lower amount of gonadotropin was required.
- Significantly lower acceptable number of follicles/US.
- Significantly lower acceptable number of retrieved oocytes.
- The percentage of MII oocytes was comparable to those of the standard long protocol.
- The fertilization, cleavage, the incidence of good quality embryos, and pregnancy rates were comparable to those of the standard GnRH long agonist protocol.

This study concluded that the GnRH antagonist protocol is safe, effective for the patient, and has practical advantages over the long agonist protocol.