

Summary and conclusions

The present study was done to evaluate the predictive value of pretreatment estimation of the ovarian volume and other parameters, in patients undergoing ART cycles, in relation to the outcome.

This study was carried out at the IVF-ET center in the Department of Obstetrics & Gynecology in Banha university hospital, and at Mansoura Integrated Fertility Center (MIFC). Egypt, from January 2003 to January 2004.

This study included 100 infertile couples who attended the centers. Couples were included independent to their age, diagnosis, or prior reproductive history.

All patients were subjected to controlled ovarian hyperstimulation according to long agonist protocol which is the protocol provided in our IVF-ET centers.

Cycle was cancelled before egg retrieval when there was:

1. Fewer than 3 follicles with > 18 mm diameter.
2. The total number of follicles was < 4 .
3. A peak E2 of < 500 pg/ml on the day of HCG administration.

Ovarian response was presented by the total number of ova collected, as well as, the total number of mature ova injected.

In all patients, pre-stimulation variables of ovarian volume, day 3 FSH, smoking status, and maternal age were compared to subsequent outcome measures of peak E2, ampoule number of FSH & HMG, days of stimulation, number of mature oocytes retrieved, number of mature ova suitable for injection and cycle cancellation.

Ova pick up was done for 96 patients only, while 4 were canceled due to poor response (4%).

There was a highly significant positive correlation between antral follicle number and cancellation rate.

There was a weakly significant negative correlation between summed OvV and cancellation rate and positive correlation between age, FSH and cancellation rate, but not statistically significant.

The study showed that:

1. There was highly significant positive correlation between ova collected and summed OvV, antral follicle number and day 8 E2 serum levels.
2. There was a significant negative correlation between the age and ova collected.
3. There was a negative correlation between BMI, basal FSH and ova collected but this correlation was not significant statistically.

The study found that that there was a highly significant positive correlation between ova injected and summed OvV, antral follicle number, day 8 serum E2 and number of ova collected and also show that there is a negative correlation between age, BMI, basal FSH but not significant statistically.

Study concluded that:

1. Summed ovarian volume and basal antral follicle number in early follicular phase represent the most important factors in predication of ovarian response to gonadotropins in IVF cycles more than basal FSH.
2. The information obtained by ultrasonography is very useful in counseling the couples and planning their treatment, because it gives an estimation of the actual ovarian reserve by quick, cost-effective and minimal invasive method.

The result of different studies may agree or disagree with each other duo to presence of multiple variables e.g. different sample size of studies, different protocol of ovulation induction, the different hormonal assay kits and different statistic method use.