

## Summary

### **The effort to minimize risks of ovulation induction with gonadotropins**

The aim of this study was to evaluate three different starting doses of follitropin beta based on patients' response to clomiphene citrate treatment to assess the lowest effective dose for follicular development. In fact the determination of the appropriate gonadotropins' starting dose to achieve only mono-follicular development is the most important issue in ovulation induction. This is the main goal to minimize cycle's cancellation due to low or high ovarian response and to prevent multiple pregnancies or ovarian hyperstimulation syndrome. The objective of the trial was to determine the effect of different follitropin beta dose (50, 75 and 100 IU daily) on follicular development, thickness of the endometrium, total consumption of gonadotropins per cycle etc.

We evaluated 90 cycles with ovarian stimulation for 90 patients with unexplained infertility, mild male factor or anovulatory disorder. We prospectively divided patients into 50, 75 and 100 IU groups based on patients' response to clomiphene citrate treatment.

We performed 85 intrauterine inseminations. We cancelled 5 cycles (1 cycle due to high ovarian response (1.1 %), 3 cycles due to low ovarian response, 1 cycle the other reason). We achieved 15 clinical pregnancies, total pregnancy rate was 18 %. Pregnancy rate was 22 %, 10 % and 28 % in 50 IU, 75 IU and 100 IU follitropin's beta groups (not significantly different). The average number of follicles was  $2.0 \pm 0.8$ ,  $2.2 \pm 1.1$  and  $2.5 \pm 1.8$  (not significantly different), total dose of gonadotropins was (IU)  $483 \pm 192$ ,  $600 \pm 151$  and  $830 \pm 268$  ( $p < 0.001$ ), respectively. We observed 1 case of abortion (5.5 %) and 2 cases of twins (14 %). We did not observe any case of ovarian hyperstimulation syndrome.

This study has suggested that the knowledge of clomiphene citrate response is the contribution for the proposal of effective gonadotropins' dose. 50 IU of follitropin beta daily was the appropriate starting dose for clomiphene citrate sensitive women. Daily doses 75 IU or 100 IU of follitropin beta significantly increased total consumption of gonadotropins. We observed a mild risk of cycle's cancellation due to low or high ovarian response and no case of ovarian hyperstimulation syndrome. The results of the trial suggested that daily doses 75 IU or 100 IU of follitropin beta may increase the risk of multiple pregnancy. The study has confirmed a mild risk of low or high ovarian response and no risk of ovarian hyperstimulation syndrome.