LOW DOSE GONADOTROPINS A NEW RATIONALE APPROACH IN TREATING POLYCYSTIC OVARIAN DISEASE

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SUMMARY

Low dose gonadotropins along with GnRh analogues have been observed to better the pregnancy rate and lower the incidence of OHSS in PCOD. Forty four patients with PCOD with anovulatory cycles were taken up for the study. Majority of patients were on GnRh from luteal phase of previous cycle. The dose of FSH or hMG started from 150iu to 75iu and maintained on 75iu or 37.5iu. Monofollicular growth was achieved in 36 patients (58%). Cancellation of cycles was done in 8 (12.9%). The pregnancy rate per patient was 36.6% and per ovulatory cycles was 28.5%. No case of OHSS occured. In 92% of patients singleton pregnancy occured. Thus low dose gonadotrophins significantly lowered incidence of multiple pregnancy and obviated OHSS. So low dose gonadotrophins should be the rationale in treating PCOD.

INTRODUCTION

Pregnancy rates are disappointing in PCOD patients. Induction of ovulation with HMG in PCOD results in low pregnancy rates, high abortion rates and risk of ovarian hyperstimulation syndrome. A combination of dexamethasone and hMG improved pregnancy rate and decreased the risk for OHSS. The use of FSH decreasing the incidence of OHSS compared with hMG was not confirmed by other investigators.

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With combined use of GnRh hMG, better pregnancy rates have been observed. The better results were therefore attributed to improvement of embryonic quality due to reduction of LH concentration by GnRh analogues

At present titration of FSH, or hMG, gradually and slowly appear to be the only possible way of preventing OHSS in PCOD.

MATERIAL AND METHODS

Forty four patients with PCODs who were having anovulatory infertility were taken into study during a period of 18 months in 1995-96 at SAT Hospital, Medical College, Trivendrum.

Majority of patients were on Gn-Rh - analogue (long protocol Inj Buserelin 500 mcg) S/c from luteal phase of previous cycle. All patients were monitored with 6 5 MHz transvaginal probe (TOSHIBA CAPASEE) from 8th day of starting of gonadotropins. The initial dose varied from 150 to 75 IU of pure FSH or hMG which was tapered to one ampoule (75 iu) or 1/2 amp (37.5 iu) depending on response. The protocol was adjusted to a maximum of 3-4 cycles. 62 cycles were monitored with ultrasound. 56 cycles were found to be ovulatory. Monofollicular growth was achieved in majority i.e. 36 patients (58%). Cancellation of cycles was done in 8 (12.9%) due to excessive growth of follicles. hCG was administered when leading follicle was >16-17mm. The mean duration of follicular phase was 17.1 + 3 2 days and mean dosage of FSH used was 15.1 + 4.9.

The pregnancy rate per patient was 36.6% and per ovulatory cycle 28.5%.

No case of OHSS occured in the low dose regimen. One case of twin pregnancy and 15 cases of singleton pregnancy occured.

In the same period with conventional therapy with step up Gonadotrophins for PCOD, 1 case of severe OHSS complicating quadruplets and 1 case of Quintuplets occured.

RESULTS

Low dose FSH/LMG in PCOD
No of patients - 44
No of Cycles - 62
No of Ovulatory cycles - 56
No. of monofollicular growth - 36 (58%)
Cancelled cycles -8(12.9%)
Mean duration of follicular phase
-17.1+3.2
Mean dosage of FSH -15.1+4.9

Outcome
Pregnancy rate/patient - 36.6%
ovulatory cycle - 28 5%
OHSS - Nil Multiple pregnancy - Twins - 1
Singleton pregnancy - 15 (92%)

Conventional therapy (Step up Regimen)

Severe OHSS - 01
Quintuplets - 01
Quadruplets - 01

DISCUSSION

The main risk factor in presence of polycystic ovaries, are high ovarian response to superovulation therapy, the use of hCG to trigger ovulatory process or for luteal phase support and endogenous production of hCG by early pregnancy.

Fleming and Haxton (1985) pioneered ovarian stimulation in anovulatory patients by combined use of GnRh and hMG. The better improvement in embryonic quality

due to reduction of LH concentration by GnRh.

Transvaginal follicular monitoring by ultrasound focussing on the number, size and pattern of distribution of follicles are important in prediction of OHSS.

A Belgian multicentric (Delvigne and Dubois, 1993) has concluded that number of secondary or medium sized follicles rather than dominant, as a valuable thing of possible development of OHSS.

Monitoring by transvaginal ultrasound while on low dose FSH/hMG eliminates the use of serum oestradiol estimation which will be practicable for many of practising specialists.

Ultrasound follow up of leading follicles should be used for determination of best timing of hCG and serum E2 and sonographic visualisation of small and intermediate follicles should be used to determine likelihood of hyperstimulation syndrome.

Forman et al (1990) suggested that hCG should be withheld if serum oestradiol exceeded 2000 pg/ml or associated with total of more than 15 follicles each more than 12 mm mean diameter.

In PCOD patients titration of hMG and FSH when administered gradually and slowly should be used to prevent OHSS and achieve monofollicular ovulation.

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