

## Comparing the effect of low dose HMG plus metformin and low dose HMG in PCOS patients resistant to Clomiphene citrate

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### Abstract

Polycystic ovary syndrome (PCO) is the most common problem among ovarian dysfunctions that accompany infertility and ovulation problem. The prevalence of ovulation dysfunction is reported as high as 40% in general population. The first step in management of PCO is weight reduction and then drug therapy. Clomiphene citrate is the first choice for ovulation induction. Considering the resistance of some patients to this drug, other methods have been also employed. This study evaluated whether metformin had beneficial effect in clomiphene resistant patients with polycystic ovarian syndrome in an infertility clinic or not. Thirty-four patients resistant to clomiphene were randomly divided into 2 groups. One group was treated with metformin plus HMG (group A) and the other with HMG alone (group B). Hormonal assessment and GTT were performed before administration of 1500 g of metformin (500mg three times daily). HMG was injected the next month. The response was assessed by the restoration of follicle growth (16-18mm) and pregnancy rate. The findings were analyzed by T-test and Chi-Square. In the first group, we had 2.4±1.9 adequate follicle response in each patient. In the second group we had 1.3±1.4 adequate follicle responses. For the first group the number of HMG was 6.2±1.4 while for the second group it was 6.1±1. In the first group (P=0.17) the stimulation length was 10.5±1.4 days (P=0.77), and in the second group, it was 10±1.4 days. There was no significant difference in length of stimulation and total HMG received among the two groups. For the first group, the pregnancy rate was 29.4% and in the second groups, the rate appeared to be 11.8% (P=0.199), the difference was not statistically significant. In the first group, there were four patients with hyperinsulinemia, all of them had follicle growth. But in the second group, there were five patients with hyperinsulinemia but only one of them had follicle response. Metformin is not always beneficial when given to clomiphene-resistant infertile women with PCO in clinical practice. We recommend that the use of metformin in PCO patients with hyperinsulinemia.

**Keywords:** Ovulation Induction, Polycystic Ovary, Metformin, and Human Menopausal Genadotropin (HMG).

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