

Clomiphene Citrate in addition to gonadotropins may improve ovarian response in poor responders

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Context: Poor ovarian response (POR) is one of the most challenging problems in assisted reproduction. Several strategies have been used to improve pregnancy rates. The use of Clomiphene Citrate (CC) has been shown to improve ovarian stimulation outcomes and decrease gonadotropin requirements in women of advanced reproductive age. However, the combination of CC and gonadotropins to improve pregnancy rates after in IVF in poor responders is still unexplored due to the small number of trials with few participants.

Objective: To evaluate the outcomes of the combination of CC and gonadotropin in patients who did not respond in a previous short gonadotropin/GnRH antagonist protocol.

Methods – Patients – Interventions: This is a prospective cohort trial involving 24 patients diagnosed with poor ovarian response who underwent ovarian stimulation during the period between June 2013 and September of 2017. All patients were treated with the maximum dose of gonadotropins (hMG, 450 IU/day, hMGgroup) according to a short gonadotropin/GnRH antagonist protocol. In a subsequent cycle those patients underwent the same stimulation protocol with the addition of 100mg of CC from day 3 to day 7 (CC-hMG group). All stimulation characteristics, and clinical outcome (clinical pregnancy and take-home baby rates) were compared between the two stimulation protocols in the same group using paired samples t-test and chi square (χ²) where needed.

Results: Supplementation with 100mg of CC resulted in an increase in estradiol levels (by 441.721 pg/ml), number of follicles (by 1) and number of oocytes retrieved (by 1), as well as an increase in the number of total embryos available for transfer which did not reach statistical significance. Furthermore, a significant reduction was observed in cancellation rates in the CC-hMG group. Finally, a statistically significant increase in clinical and biochemical pregnancy rate was observed in the CC-hMG group (four clinical pregnancies and four biochemical pregnancies were achieved, chi square p=0.006).

Conclusion: In conclusion, women diagnosed with POR and previous failed IVF cycles could benefit from the addition of CC 100 mg to the stimulation regimen. However, the effectiveness of this treatment requires further investigation.

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