

# Effect of Dexamethasone on ovarian response in infertile women aged over 35 years undergoing IVF/ICSI program

Ashrafi M. (M.D.)<sup>1,2</sup>, Zafarani F. (B.Sc.)<sup>3</sup>, Shahrokh Tehrani Nejad E. (M.D.)<sup>1,4</sup>, Owj M. (M.D.)<sup>1</sup>, Baghestani A.R. (M.Sc.)<sup>5</sup>, Amirchaghmaghi E. (M.D.)<sup>6</sup>.

1- Member of specialist group, Department of Endocrinology & Female infertility, Royan Institute, Tehran, Iran

2- Assistant Professor, Department of Obs & Gyn, Shahid Akbarabadi Hospital, Faculty of Medicine, Iran university of Medical Sciences, Tehran, Iran

3- B.Sc. in Midwifery, Member of Department of Endocrinology & Female infertility, Royan Institute, Tehran, Iran.

4- Assistant Professor, Department of Obs & Gyn, Emam Khomeiny Hospital, Faculty of Medicine, Tehran university of Medical Sciences, Tehran, Iran

5- Member of specialist group, Department of Epidemiology, Royan Institute, Tehran, Iran

6- General Physician, Department of Endocrinology & Female infertility, Royan Institute, Tehran, Iran.

## Abstract

**Introduction:** Poor ovarian response to exogenous gonadotrophins occurs in 9-26% of ART cycles. Ovarian reserve decreases by ovarian aging which is an important factor in decreasing ovarian response to gonadotrophins but there are other probable methods which are reported as affecting factors on ovarian response to gonadotrophins such as high dose of gonadotrophins, adjuvant therapy with growth hormone and glucocorticoids. In this study, we aimed to evaluate the role of Dexamethasone, as an effective factor on ovarian response, in infertile women aged over 35 years who referred to Royan institute.

**Material and methods:** In this clinical trial, 72 infertile women, aged over 35 years, who referred to Royan institute to undergo IVF/ICSI program, were selected. Patients were divided into two groups in each group, 36 patients were studied. Laboratory tests including serum FSH, LH, Total Testosterone, Estradiol, Prolactin and thyroid function tests were performed on third day of menstrual cycle. Standard long protocol began on 21<sup>st</sup> day of menstrual cycle. Simultaneously, in triple blind method, each woman received either 2 tablets containing Dexamethasone or placebo. After 2 weeks, ovarian stimulation was started using 3 HMG ampoules from 2<sup>nd</sup> day of menstrual cycles and its dose was increased according to ovarian response. If the size of at least three follicles was more than 18 mm, HCG (10000 IU) was administered after Estradiol measurement. After 36-38 hours of HCG administration, oocyte was retrieved by transvaginal sonography guidance. Embryo transfer was done after 48 hours. SPSS version 11.5 was used for data entry and results were analyzed by Paired t test and Chi-square.  $P < 0.05$  was considered as significant statistical level.

**Results:** There were no statistical differences between the groups in age, duration of infertility, Body mass Index (BMI), hormonal tests, number of retrieved oocyte and percent of transferred embryos. However, the difference between the groups in the number of used HMG ampoules [in Dexamethasone group  $30.6 \pm 13.39$  versus  $41.65 \pm 18.34$  in placebo group] was statistically significant ( $P < 0.05$ ).

**Conclusion:** Although there was no statistical difference between Dexamethasone and placebo groups in number of retrieved and fertilized oocytes but the number of used HMG ampoules in Dexamethasone group was statistically lower than the placebo group and this difference can imply the positive effect of Dexamethasone on ovarian response to gonadotrophins so that utilization of Dexamethasone as an adjuvant for standard treatment is recommended in patients over 35 years old who are known at risk of low ovarian response.

**Key words:** Dexamethasone, Ovarian response, Placebo, Assisted reproductive technology, and Gonadotrophins.

**Corresponding Address:** Dr. Ashrafi M., Endocrinology and Female Infertility Dep., Royan Institute, No. 36, Simin Alley, Asef Cross, Zafaranieh, P.O. Box: 19395- 4644, Tehran, Iran.

**E mail:** Info@royaninstitute.org