

Relationship between number of antral follicle and ovarian volume and responsiveness to induction ovulation

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Abstract

Unresponsiveness of ovaries to different ovulation induction protocols is a major problem in infertility treatment. Recently antral follicle count and ovarian volume have been suggested to predict ovarian response. Objective of this study is to verify the correlation of ovarian responsiveness with ovarian volume or antral follicle count. In this prospective cohort study, 112 infertile patients with 115 IUI induction ovulation cycles were enrolled. All of the patients had their basal FSH measured and an estimation of ovarian volume and antral follicle number count was performed by transvaginal ultrasonography on day 3 of cycle. They were divided into four groups according to ovulation induction protocols. The observation of one or more follicle ≥ 16 mm during the treatment was interpreted as a positive response. There was a direct linear correlation between average of ovarian volume and antral follicle number, and these two parameters were inversely correlated with age. Considering FSH, there was an inverse correlation with antral follicle count, but no correlation with ovarian volume. Among the different protocols, in HMG group these two parameters correlated directly with ovarian responsiveness. In HMG group, using chi-square for trends, an antral follicle count less than 5 and /or ovarian diameter less than 20 mm was associated with cycle cancellation. Therefore, transvaginal ultrasound, measurement of ovarian volume and basal follicle numbers on day 3 of cycle prior to starting gonadotropins administration can help to predict the patient's response.

Keywords: Antral follicle, Ovarian volume, Ovarian responsiveness, Ovulation induction.

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