

# Role of serum $\beta$ HCG measurement in prediction of Empty Follicle Syndrome

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## Abstract

One of important matter in treatment of patients who need *in vitro* fertilization and embryo transfer to uterus is retrieval of good quality and enough number of oocytes. Unfortunately, in some cases though ovary had good appearance in ultrasound and hormonal aspect, no oocyte was retrieved after HCG injection, which this condition is known as empty follicle syndrome. The aim of this study is to determine the relationship between serum  $\beta$ HCG and empty follicle syndrome (EFS) in infertile women undergoing ovulation induction. This research was a prospective and case control study over 1009 patients, which 135 patients were omitted due to different reasons and amongst 874 remaining patients, 23.3% had undergone IVF and 76.7% of them had undergone intracytoplasmic sperm injection. All patients with HMG and GnRHa treatment had undergone long protocol. Then the numbers of mature oocytes were assessed during treatment and level of serum  $\beta$ HCG was measured on time of HCG injection and oocytes retrieval and it was compared with retrieved oocytes. In evaluation of results of this study, no oocytes were found in 34 (3.9%) patients (group I) and less than 50% matured follicles were found in 92 (10.5%) patients (group II) and finally more than 50% matured follicles were found in 748 (85.5%) patient (group III). Mean level of serum  $\beta$ HCG was ( $154.6 \pm 107$ ) in group I, ( $141.7 \pm 90.4$ ) in group II and ( $156 \pm 56.6$ ) in group III, 36 hours after HCG injection. The results showed no significant difference between  $\beta$ HCG and EFS ( $P=0.194$ ).

**Keywords:** Empty Follicle Syndrome,  $\beta$ HCG, Ovulation induction and IVF.

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