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Thesis Title	Reproductive hormones concentration in fertile and infertile Iraqi patients.		
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Abstract

This research was conducted to study changes in hormonal levels during different phases of menstrual cycle in fertile Iraqi women and the effect of elevated prolactin concentration (above physiological value) on these hormones in 332 hyperprolactinemic infertile patients attending IVF Institute for embryo research and Infertility Treatment, University of Baghdad. The mean age of patients was 33 years. Number of control women was 131 with a mean age of 29 years.

Subjects were divided into 5 age groups: the first group (20-25 years), the second (26-30 years), the third (31-35 years), the fourth (36-40 years) and the fifth (more than 40 years) and 4 ranges of duration of infertility: the first range (2-5 years), the second range (6-10 years), the third range (11-15 years), the fourth range (more than 15 years). The effect of these two parameters and the effect of the type of infertility (primary and secondary) on reproductive hormones were studied. Hormonal assay of Follicle stimulating hormone (FSH), Leutenizing hormone (LH) and Estradiol (E₂) were performed on cycle day 12. The Prolactin (PRL) and Progesterone (P₄) concentrations were measured on cycle day 21.

PRL concentration was found to increase with advancing of the age and it became at significant level above age of 40 years. It also increased with an increase in the duration of infertility. PRL concentration was significantly higher in primary than secondary infertility group. The Gonadotropin (FSH, LH) concentrations were increased with an increase in age of female. They became at significant level above the age of 40 years. In addition, they were significantly lower than control group. Also,

they were increased with duration of infertility accretion. Although, Gonadotropin concentrations were higher in secondary than primary infertility but it was statistically not significant ($P>0.05$). The ovarian hormones were found to decrease with age accretion and, it decreased significantly above the age of 40 years. They were significantly lower than control groups. The estradiol (E_2) concentration was found to decrease with duration of infertility accretion but without significance value. Progesterone (P_4) concentration was found to decrease with advancing in the duration of infertility. The lowest ovarian hormones concentrations were found to be in the primary infertility group than the secondary infertility group.

The results of this study showed that the highest level of Follicle stimulating, Leutenizing hormone, Prolactin, Estradiol and Testosterone in the serum of fertile women was found to be in the preovulatory period, whereas the highest level of Progesterone secretion was found to be in the midluteal phase.

The results showed that in hyperprolactinemic amenorrheal patients there was a significant increase in FSH, LH and PRL concentrations and a significant decrease in E_2 and P_4 concentrations as compared to fertile control.

It is concluded from the results of this work that the age and duration of infertility have significant effect on reproductive hormone concentration. The reproductive hormone concentrations were found to be significantly decreased in the hyperprolactinemic infertile patients when compared to fertile females.