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Changes in Plasma Level of Steroid Hormones (Estradiol 17β, 17α20β Hydroxy Progesteron and Cortisol) and Electrolytes, During Different Stages of Reproductive Cycle in *Rutilus rutilus caspicus* from Bandar Torkaman (South of Caspian Sea)

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Abstract

The present study aimed to evaluate the changes of estradiol-17β (E2) and 17α20β- hydroxy progesterone (17OHP), cortisol and some electrolytes (Ca^{2+}, K^{+} and Na^{+}) in the plasma of female *R. rutilus caspicus* during annual reproductive cycle. Plasma level of steroids was measured using RIA, cortisol using ELIZA and electrolytes using flamephotometry technic. The highest plasma level of E2 (147.16±9.01 ng/ml) was measured at the end of vitellogenesis stage of oocytes. On the contrary, maximum plasma level of 17OHP (4.71±0.64 ng/ml) and cortisol (12.67±2.25 ng/ml) was observed in early April just before spawning time. The maximum concentration of Ca^{2+} was observed during the vitellogenesis stage of oocytes and then decreased when vitellogenesis progressed. The highest level of K^{+} decreased sharply in maturation stage of oocytes ($P>0.05$). The results of the present study revealed that changes in plasma levels of steroids and electrolytes were closely correlated to ovarian development during reproductive cycle.

Keywords: *Rutilus rutilus caspicus, Reproduction cycle, Sexual hormones, Cortisol, Electrolytes, Caspian Sea.*