

عنوان مقاله:

The Effects of Melatonin Alone or in Combination with Zinc on Gonadotropin and Thyroid Hormones in Female Rats

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خلاصه مقاله:

Thyroid and gonadotropin hormones play an essential role in the regulation of regulating various physiological functions. The effects of melatonin and zinc (Zn) on these hormones have already been investigated. The aim of the present study was to investigate the effect of melatonin with and without zinc on the levels of gonadotropin hormones and thyroid hormones (triiodothyronine (T_3), thyroxine (T_4) and thyroid-stimulating hormone (TSH)) in female rats. In general, ۳۵ sexually mature female rats were randomly divided into five treatment groups, with each group comprising ۷ rats, in a completely randomized design (CRD) during the research. The rats were treated daily with Zn and melatonin via gavage as follows: T_1 (control ۱, basal diet), T_2 (control ۲, treatment with normal saline) and the other experimental groups, including T_3 , T_4 and T_5 , were treated with Zn (۴۰ ppm), melatonin (۵ mg/kg) or a combination of Zn and melatonin at the same dose. The administration of the drugs was continued for ۲۰ days (daily). Plasma samples were then taken for the determination of LH, FFH, LH/FSH, estrogen, progesterone, T_3 , T_4 and TSH levels. The results showed no significant differences in FSH and LH levels between treatments. Estrogen, progesterone and TSH levels were higher in the rats receiving ۵ mg melatonin per day than in the other groups, but not statistically significant ($P>0.05$). However, T_3 levels decreased significantly in the group receiving ۴۰ mg/kg Zn compared to the other experiments. ($P<0.05$). The results showed no significant difference between the treatments in terms of T_4 levels ($P>0.05$). In conclusion, no remarkable changes in other variables were observed in female rats receiving melatonin, Zn or a combination of melatonin and Zn, with the exception of T_3 .

کلمات کلیدی:

Estrogen, Female Rat, Melatonin, T_3 , T_4 , TSH, progesterone, Zinc

لینک ثابت مقاله در پایگاه سیویلیکا:

