

Summary of the DVM thesis No., Faculty of Veterinary Medicine, Urmia University.

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Author: Seyedeh Shakila Hosseini

Title of thesis: Melatonin effects on gonadotropins and adrenocortical parameters in Ovariosterotomized cats

Summary:

In order to prevent the excessive increase of pets, especially cats, sterilization is one of the population control measures in this regard. Naturally, sterilization, like any intervention, can induce stress in animals and cause many changes in the endocrine system, especially gonadotropin hormones. For the purpose of this study, 20 DSH feline, in the same weight and age range, were randomly selected and divided into 4 groups, including the ovariectomy group with melatonin administration, the ovariectomy group without receiving melatonin, the melatonin group, and the control group (without surgical intervention or any medicinal) were divided. The groups receiving melatonin on days -1, +1, +3 and +5 received melatonin orally at a dose of 3 mg per kilogram of weight. From all cats on days -1, +1, +3 and +5, 3 ml of blood samples were taken from the saphenous vein in tubes with gel and followed by coagulation using a centrifuge at 1500 g. Serum was separated for 5 minutes. Estrogen, progesterone, LH, FSH and cortisol hormones were measured by ELISA method. The results of this study showed that the levels of estrogen and progesterone hormones significantly decreased after ovariectomy in the groups with and without melatonin, and on the contrary, the levels of LH and FSH increased significantly ($P < 0.05$). Administration of melatonin did not show any effect on serum changes of the aforementioned hormones on days -1 and +1, but on days +3 and +5, administration of melatonin in ovariectomy cats caused a slight increase in the levels of estrogen, progesterone, FSH and LH and There was a significant decrease in blood cortisol levels ($P < 0.05$). It is noteworthy that the administration of melatonin in healthy cats without ovariectomy also showed the same effects, so that in the group receiving melatonin, there was a slight increase in the levels of estrogen, progesterone, FSH and LH hormones and a significant decrease in the levels of cortisol hormones. seen. The results of this study showed that the administration of melatonin, in addition to its anti-stress and calming effects, can over time cause a slight increase in the production of sex hormones from tissues other than the ovary, which can be beneficial for health and better performance. The animal's metabolism is effective.

Key words:

Melatonin, Ovariectomy, Sexual Hormones, Cortisole