Summary of the DVM thesis No., Faculty of Veterinary Medicine, Urmia University.
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Title of thesis: Evaluation of Aplein status in sera of ovariohysterectomized cats and study of protective rols of melatonin administration.

Summary:

Sterilization surgery is one of the most common surgeries for pets, especially cats, in order to prevent problems related to the reproductive system and population control. In order to examine the changes in serum apelin levels following ovariohysterectomy in cats and to study the protective role of melatonin, twenty local shorthair female cats with similar age and weight range were randomly selected and divided into 4 groups, including ovariohysterectomy group with melatonin administration, ovariohysterectomy group without receiving melatonin, melatonin group and control group (without surgical and drug intervention). The groups receiving melatonin on days -1, +1, +3, and +5 received melatonin orally at a dose of 3 mg per kilogram of weight. Blood samples were taken from the saphenous vein on days -1, +1, +3, and +5 from all cats and separated after serum coagulation. Blood lipid profiles, including triglyceride, cholesterol, LDL, and HDL, were measured by spectrophotometry and apelin by ELISA method .The results showed that the triglyceride, cholesterol, LDL, and apelin increased significantly after ovariohysterectomy, but the HDL decreased after ovariohysterectomy. Administration of melatonin in the ovariohysterectomy group slows down the increase in triglyceride, cholesterol, LDL, and apelin levels. Apelin levels decreased over time in cats that received only melatonin, while other indices related to blood lipid profiles did not change significantly in this group of cats .Melatonin increased the HDL in spayed cats on days +1 and +3. The results show that the administration of melatonin can reduce the risk of obesity after ovariohysterectomy and the risk of cardiovascular diseases in cats by preventing the increase of lipids.

Keywords: Melatonin, Ovariohysterectomy, Apelin, Cholestrol