International Journal of
Biological Engineering and Agriculture
ISSN: 2833-5376
Volume 1 | No 5 | Nov-2022

Influence of Sex Hormones in Dogs on the Development of Breast Tumors

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Abstract: The cause of mammary tumors, which are widespread among dogs today, is the increase in the amount of sex hormones in the blood of dogs, the study of the effect of hormones on the growth of tumor tissue, and the prevention of their growth after the surgical removal of tumors as a result of ovariohysterotomy in dogs with mammary tumors. Information is provided in the article.

Keywords: breast tumors, surgery, mammal gland, amount sex hormones, ovariohysterectomy, blood samples.

Introduction It is known that hormones play an important role in the human and animal body. Because they actively participate in all the processes taking place in the body. The physiological state of the body, productivity, adaptation to new conditions and the development of many diseases are related to the hormonal activity of the endocrine glands. Many endocrine diseases have been identified in animals, and it is considered possible to determine the amount of hormones in the blood to make a correct diagnosis of these diseases. because under the influence of hormones, tumors appear in the body of animals. Mammary gland and uterine tumors are formed under the influence of folliculin hormone released from the ovary [5,6,7].

Materials and methods of research. The experimental part of the scientific research was carried out in the cynological service kennels of the internal affairs of the Samarkand region, in the cynological kennel of the border military unit No. 9784, as well as dogs belonging to the population of the city of Samarkand and conducted research in the clinic of the Veterinary Surgeon Obstetrics Department of the Samarkand State University of Veterinary Medicine, Livestock and Biotechnologies.

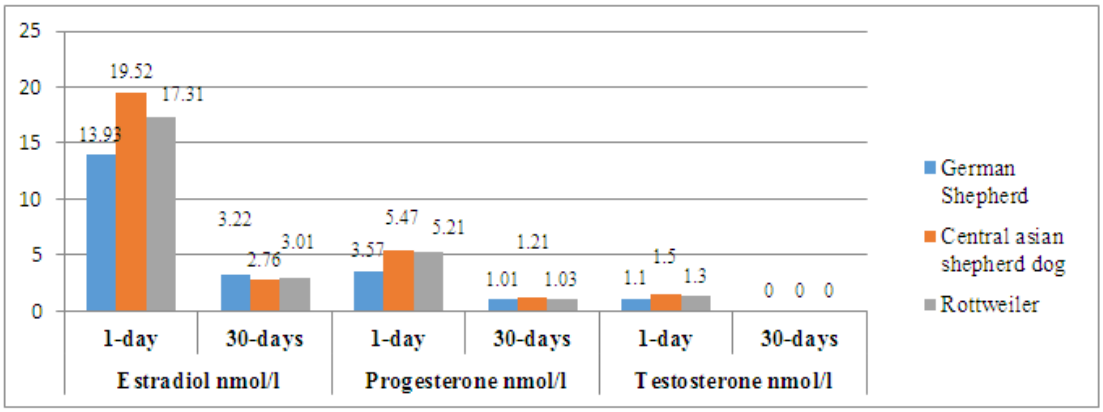
Discussion of the obtained results. Conducted clinical and histological studies have shown that out of the total number of dogs with tumors, 35% are mammary tumors, 8% are venereal tumors, 5% are lipomas, 8% are skin tumors, 5% are hydromas, 10% are fibromas, 7% are sarcomas and the remaining 22% are tumors. mixed type [1,2,3,4,8].

In sick dogs with a tumor of the mammary gland, 9 of them underwent surgical methods of mastectomy, while in order to study the effect of the hormone estrogen secreted from the ovaries, an oophorectomy was performed to remove the ovaries. The main goal is a sharp increase in the concentration of female sex hormones in the blood of dogs, which is the main factor in the growth and development of a tumor, a general and local negative effect, the prevention of mammary gland hyperplasia and an increase in the volume of tumors formed. In carrying out the operation of sick dogs, age, general clinical and physiological state, disease with other diseases are taken into account.

In dogs of various breeds with a tumor of the mammary glands, the amount of hormones in the blood of the Central Asian Shepherd Dog was 19.52±0.9 nmol/l. This indicator in a Rottweiler is 17.31±0.7 nmol/l ha compared to the norm by 1.8 higher, the amount of estradiol in the blood of a German shepherd is 13.93±0.5 nmol/l or 1.5 times higher than norm. The amount of progesterone in the blood of the Central Asian Shepherd is 5.47±0.3 nmol/l, the Rottweiler is 5.21±0.2 nmol/l, and the German Shepherd is 3.57±0.1 nmol/l (Table 1).

In experiments on dogs after ovariectomy, the amount of female sex hormones in the blood on day 10 showed the following indicators: in a German shepherd, the amount of hormones decreased to 9.29 ± 0.03 nmol / l, in the Central Asian Shepherd to 9.76 ± 0.25 nmol /l, Rottweiler to 9.62±0.12 nmol/l, the amount of progesterone decreased in the German Shepherd to 2.38±0.04 nmol/l, in the Central Asian Shepherd decreased to 3.65±0.08 nmol/l , Rottweiler and also decreased to 3.35±0.03 nmol/l.

Tab 1 **The amount of estrogen hormones in the blood of ovariectomized dogs before and after surgery**



On the 20th day, a sharp decrease in the amount of estrogen hormones was found out, i.e. in the German Shepherd up to 3.22±0.01 nmol/l, in the Central Asian Shepherd up to 2.76±0.02 nmol/l, in the Rottweiler up to 3.01±0.03 nmol/l, the amount of progesterone decreased in the German shepherd to 1.01±0.02 nmol/l, in the Central Asian Shepherd Dog up to 1.21±0.01 nmol/l, in the Rottweiler up to 1.3±0.02 nmol/l.

When checking blood hormones after 30 days, hormones inherent in females (estradiol and progesterone) were not detected. The amount of the testosterone hormone in the German Shepherd dog slightly increased from 1.71±0.01 nmol/l to 1.91±0.03 nmol/l, in the Central Asian Shepherd from 1.90±0.19 nmol/l to 2.01 ±0.01 nmol/l, Rottweiler from 1.72±0.08 nmol/l to 1.84±0.03 nmol/l.

As a result of the use of hormone therapy in sick dogs, the growth and development of the tumor decreased, and the appearance of metastases and relapses was prevented. Along with this, with an increase in the activity of the immune system of dogs, their clinical and physiological state improves, which increases the body's resistance against tumors.

After ovariectomy in females, the amount of secreted estradiol and progesterone decreases and, as a result, is not released, which leads to the prevention of the development and formation of a tumor.

Conclusions.

1. The spread of various types of tumors among service dogs of the canine service and dogs belonging to the population is 5-7%, of which 35-40% are mammary tumors, 8% are venereal tumors, 5-7% are fibromas and lipomas, 5-8% are skin tumors. and hygromas, as well as 22-25% mixed types of tumors.
2. The main etiological factor in the occurrence of a tumor is the abnormal course of the reproductive activity of dogs, low fetal fertility, the use of various contraceptives, under the influence of female sex hormones progressive chronic tissue irritation, progressive tissue growth, hypertrophy and hyperplasia of the mammary glands in sick dogs in the blood there is an increased content estrogen. In particular, the amount of estradiol in the blood of the German Shepherd was 13.93±0.5 nmol/l, in the Central Asian Shepherd 19.52±0.9 nmol/l, in the Rottweiler 17.31±0.7 nmol/l.
3. As a result, the use of hormone therapy and ovariectomy in dogs after 20 days in German Shepherd up to 3.22±0.01 nmol/l, Central Asian Shepherd up to 2.76±0.02 nmol/l, Rottweiler up to 3.01± 0.03 nmol/l, the amount of progesterone decreased in the German Shepherd to

1.01±0.02 nmol/l, in the Central Asian Shepherd to 1.21±0.01 nmol/l, in the Rottweiler to 1.3±0.02 nmol /, after 30 days, hormones inherent in females (estradiol and progesterone) were not detected.

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