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High Prevalence of Canine Mammary Gland Tumor in Nulliparous Compared with Multiparous Female Dogs

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Abstract : Many factors initiate mammary gland tumor in female dogs such as age, breed, sex, estrous cycle, birth control and pseudopregnancy. Those factors are mostly associated with canine sex hormone. In this study, questionnaires and direct interviews were used to collect information from owners of female dogs that had been diagnosed as mammary tumors at our veterinary teaching hospital, during January 2015 to October 2016 to compare the prevalence of mammary tumor between nulliparous and multiparous female dogs. 200 dogs (from all 212 mammary tumor patients, some were excluded because of inadequate information) were included in the study, 72.5% were nulliparous and 27.5% were multiparous. The results revealed that breed, age, birth control age and birth control methods were not different in both groups; most dogs in both groups were various purebreds, geriatric age, and low incidence of hormonal contraception while 100% of multiparous dogs and 83.7% of nulliparous dogs had been neutered at over two years old. The significant differences between two groups were the frequency of pseudopregnancy and estrus which were much higher in nulliparous female dogs. It can be concluded from our study that nulliparous dogs may be more likely at higher risk of mammary tumor compared to multiparous dogs from various factors especially, the frequency of estrus and the occurrence of pseudopregnancy which related to more times of sex hormonal contact. This study was a preliminary data for further studies to determine the other risk factors of mammary gland tumors in dogs, and to our knowledge, it is the first report on a significantly higher prevalence of mammary tumor in nulliparous female dogs than that in multiparous dogs. This finding corresponds with the study of breast cancer in women but may be from different causes and factors due to the differences in estrous physiology.

Keywords : canine, female dogs, nulliparous, multiparous, mammary tumor, prevalence
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