

Metastasis of a Mammary Gland Carcinoma in a Dog

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Introduction

Mammary cancer is the most common malignant neoplasm in the bitch. It constitute 40 percent of all tumors in female dogs, which is three times higher than incidence of mammary tumors in humans[2].

Cytological differentiation between benign and malignant canine mammary tumors is difficult, however, an irregular chromatin pattern was reported to be a significant criterion for malignancy[1]. It can be estimated that approximately 30 percent of the surgically removed mammary tumors are malignant[4].

Malignant mammary tumors often have some degree of infiltrative/destructive growth into adjacent tissues and/or invasion of vessels. Malignant mammary tumors often metastasize into local lymph nodes and lungs, and less frequently into other organs[3].

Based on histological and cytological criteria, this case was diagnosed as tubulopapillary carcinoma of the mammary gland.

Materials and Methods

A 14-year-old dog(mixed breed) with a history of obesity, submandibular edema, cough and dyspnea showed nodule in Lt. posterior 4-5th mammary gland.

After gross finding, tissue samples were fixed in 10% neutral buffered formalin solution and embedded in paraffin. Paraffin sections were stained H&E, through common histological processing. Stained slides were observed on microscope.

Results and Discussion

At necropsy, the left posterior 1st and 3rd mammary glands showed severe dermal edema and oval, firm and projected nodules(2×2, 1.5×2cm) in the area of the anterior 1st and 2nd mammary teats were observed. Also,

there was severe edema in submandibular area. Multifocal pin-point black or yellow-whitish spots were randomly distributed all over the lung with lobular reddish consolidation in Rt. apical and cardiac lobe. Other organs had no typical lesions. Microscopically, these mammary tumors were characterized by the formation of tubules with papillary projections and did infiltrate into surrounding tissues and vessels. In lung, these tumor cells formed multifocal angiocentric mass and emboli in vessels.

Based upon the gross as well as microscopic findings, it was concluded that the epithelial component of the malignant mammary tumor metastasized into the lung, and thus the tumor diagnosed as tubulopapillary carcinoma.

References

1. Allen, SW., Press, KW. and Mahaffey, E. *Vet. pathology*. 1986, **23**, 649-655.
2. Dorn, CR., Taylor, DON, Frye, FL and Hibbard, HH. *J. Natl. Cancer Inst.* 1968, **40**, 295-305.
3. Hilbe, M., Hauser, B., Zlinszky, K. and Ehrensperger, F. *J. Vet. Med. A.* 2002, **49**, 443-444.
4. Meuten, DJ. *Tumors in domestic animals*, 4th ed. 2002, 575-606.