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A Case of CEH- Pyometra Complex with Ovarian Granulosa Cell Tumour in a Dog

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Abstract

Granulosa cell tumor, which one of the most common neoplasia seen in the dog ovary originates from sex chord stromal cells. Granulosa cell tumors may increase the production and release of hormones such as estradiol, progesterone and a-inhibin (Pluhar et al., 1995). Sex chord stromal tumors tend to be benign in horses or cows but may have a malignant character in dogs (Maclachlan and Kennedy, 2002; Zanghi et al., 2007). Prolonged estrus cycle caused by estrus cycle disorder due to most ovarian tumors may cause pyometra in dogs. This study aims to macroscopically and histopatologically identify the ovary and uterus of a 7 year old Belgian Malinois which was removed in ovariohysterectomy that was brought to Ondokuz Mayıs University, Faculty of Veterinary Medicine, Department of Gynaecology. The patient was brought to the clinic due to anorexia, lethargy and abdominal distension. Patient history of the dog revealed the last PR oestrus was 2 months ago and mucous membranes were normal, capillary refill time was 2 seconds, submandibular lymph nodes were enlarged, dehydration ratio was 4-6%, heart rate was 144/min, respiratory rate was 60/min and body temperature was 39,6oC in the physical examination. The patient's WBC ($36.69 \times 10^9/L$), neutrophil ($30.04 \times 10^9/L$) and monocyte ($3.54 \times 10^9/L$) counts were greater than normal reference values. Reproductive ultrasonography showed anechoic regions in the uterus and heterogenous mass in line with the left ovary caudal to the left kidney. The patient was diagnosed as close cervix pyometra and prepared for surgery. Prior to the operation, the patient's general condition was supported. The reproductive organs' shape and size were found to be abnormal during the median laparotomy. The uterine horns were seen to be cystic, engorged and enlarged. The right ovary had its normal shape and size. However, a solid mass, which was attached to the uterus and large enough to be covered with both hands was detected. Since no ovarian structures could be seen in this region, the mass was assumed to be the pathological ovary. After the explorations, ovariohysterectomy was performed to remove ovaries and uterus. During the post operative evaluation the left uterine horn was measured to be 17.6 cm long and 4.5cm wide the left horn measured 17.6cm long and 3.2cm wide and the mass at the left ovary was $12 \times 18 \times 8 \text{ cm}^3$ in volume. Tissues were sent for histopathological evaluation in 10% buffered formalin solution. After routine tissue processing, Hematoxyline&Eozin sections were evaluated by histochemical staining. The histopathologic evaluation showed neoplastic cells with mostly follicular characteristics. These neoplastic cells had vacuolar cytoplasm and round hyperchromic nuclei. At some regions, eosinophilic liquid filled gaps, which are called Call-Exner Particles, were detected between granulosa cells. After the treatment, it was learned that the patient lived for a year without significant health problems and died for another reason. This case shows that granulosa cell tumors should be taken into consideration in the etiology of KEH-pyometra cases due to estrogen and progesterone secreted.

Keywords: Canine; CEH-Pyometra complex; Granulosa cell tumour; Ovary

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