（様式５）Form 5

学位論文内容の要旨
Abstract of the dissertation

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学位論文題名
The title of the doctoral dissertation

The study on diagnosis and clinical aspects of focal liver lesions in dogs
(犬の肝局所性病変の診断ならびに臨床的研究)

Focal liver lesions (FLLs) in dogs may be relatively common findings. The lesion could be benign or malignant pathologic conditions which an appropriate management for the lesion depends on the diagnosis. However, liver biopsy, which is the gold standard for a definitive diagnosis of the lesion types, is invasive and can cause life-threatening complications. Due to this limitation, current diagnostic imaging methods, including abdominal ultrasonography (US) and computed tomography (CT) which easily detect FLLs would serve as valuable methods for distinguishing benign from malignant liver lesion. Therefore, attempting to use applicable characteristics of the FLLs based on US and CT is needed, although imaging diagnosis remains challenging for predicting liver malignancy.

Besides the challenge of diagnostic technology, little is known regarding epidemiological features of hepatocellular carcinoma (HCC) in dogs, which is the most common primary liver tumor. A few studies have explored the risk factors for HCC in dogs; however, the risk factors have not yet been confirmed.

Thus, considering the above background, this study was conducted within 3 chapters to investigate the clinical utility of current diagnostic methods in distinguishing pathologic varieties of FLLs, and to gain new insight into the potential factors associated with HCC in dogs.

First chapter aimed to determine the clinical relevance of clinical data and US features of FLLs for the prediction of liver malignancy in dogs. The results revealed thrombocytosis, lesion size of 4.1 cm or greater, and heterogeneous echotexture of FLLs were independent predictors for differentiating benign and malignant liver lesions, suggesting that a combination of clinical data and US findings of FLLs could predict liver malignancy in dogs.

Second chapter aimed to identify the practical CT features and determine their clinical relevance for a broad classification of histopathologic diagnoses as benign or malignant in dogs with FLLs. The result of this study revealed that the 4.5 cm or greater of maximal

transverse diameter of the lesion and heterogeneous appearance of the lesion in postcontrast enhancement pattern of the delayed phase are independent variables for classifying liver lesions as benign or malignant with high accuracy.

Third chapter aimed to investigate the prevalence and potential risk factors associated with HCC in dog. The results of this study indicated an increased risk of HCC development with age in dogs and showed that Welsh Corgis and Beagles are breeds with a predisposition for HCC. In addition, a significant association between HCC and hyperadrenocorticism was observed, suggesting that hyperadrenocorticism might be a predisposing factor for HCC development.

In conclusion, this study indicated the use of current diagnostic methods which are a combination of clinical data and US findings of FLLs and CT characteristics of FLLs could predict liver malignancy in dogs. In addition, the results of epidemiological features of HCC in dogs, which showed Welsh Corgis and Beagles are breeds with a predisposition and that hyperadrenocorticism might be a potential risk factor. All these results could provide the useful information and fulfill the clinical aspect of FLLs in dogs for clinical application in the future.