

## Intrathoracic Adenocarcinoma Diagnosed by Thoracoscopy in a Shih-Tzu

Hyun-jung Ban\*, Hyun-wook Kim, Ji-hye Choi, Ul-soo Choi<sup>1</sup>, Jin-kyoung Kim,  
Hye-jin Kim, Eun-chang Lee, Jae-young Jang

*Haemaru Animal Referral Hospital, <sup>1</sup>Department of Clinical Pathology,  
College of Veterinary Medicine, Seoul National University*

**Introduction:** An 11 year old, spayed female, 4.1kg shih-tzu with labored breathing and mild abdominal pain was presented to Haemaru animal referral hospital.

**Materials and methods:** On physical examination, respiratory dyspnea in inspiration and rapid respiratory rate (60-80times/min) was observed. Also muffled heart sound and decreased pulmonary sound was found but clinical features such as heart murmur, pulmonary crackles sound and cyanosis were not seen on presentation. Any abnormal findings were not identified through CBC and Serum chemistry profile which were performed in local hospital. After patient stabilization with oxygen supplementation, thoracic radiographic examination was performed and severe pleural effusion was observed. As diagnostic and therapeutic object thoracocentesis was performed and sanguineous nonseptic modified transudate (S.P=1.027, T.P=3.6g/dl, PCV= 2~3%, TNCC=2500cell/ul) was diagnosed as a result of effusion analysis. On cytologic evaluation of pleural effusion, a lot of neoplastic cells showing malignant factors with a large number of vacuolated macrophage and mesothelial cell were found. Diuretics, analgesics and fluid therapy were administered with 24hr-persistent oxygen supplementation. Next day, thoracic ultrasonographic examination was performed and about 150ml of pleural effusion was removed by ultrasound-guided thoracocentesis additionally. Although mild mitral valve hyperplasia was confirmed by echocardiography, the evidence of intracardiac mass was not found. Therefore, cardiogenic pleural effusion was ruled out and chylous effusion, hemorrhage, septic inflammatory exudate and transudate was not also suspected as based on effusion analysis. So, the neoplastic effusion by diffuse intrathoracic neoplasia was strongly suspected even if any abnormalities were not found by repeated thoracic radiography.

**Results:** In this case, the diagnostic thoracoscopy was determined instead of exploratory thoracotomy. In thoracoscopy, diffuse, multiple masses on intrathoracic wall with sanguineous effusion were observed and biopsied for histopathology. These masses were diagnosed as adenocarcinomas in histopathologic examination. This patient had been managed with the medication such as the above for 2 weeks but the clinical signs included respiratory distress and pain more worsened, unfortunately this dog was euthanized by owner's request.

**Clinical relevance:** This case suggested that intrathoracic neoplasia is not likely to be observed in radiography and even in ultrasonography, therefore thoracoscopy has to be considered as a important diagnostic tool when neoplastic pleural effusion is suspected.

\*Corresponding author: [dymbhj@empal.com](mailto:dymbhj@empal.com)