Chylothorax in a Mongrel Dog- A Case Report

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Abstract
An eight year old, intact, male, mongrel weighing 14.5 kg was presented with the history of anorexia, coughing and labored breathing. Auscultation of thorax revealed reduced lung sounds and muffled heart sounds. The dog was subjected to radiography which revealed significant pleural effusion that masked thoracic structures including the cardiac silhouette. On thoracic ultrasonography anechoic effusion was visualized on both sides of the cranial mediastinum. Ultrasonography guided emergency thoracocentesis was done to relieve dyspnea and the fluid was subjected to ether clearance test and the result was more suggestive of chylous effusion. Unfortunately the dog collapsed following day.

Key words: Chylothorax, Thoracocentesis, Dog, Ultrasonography.

Chylothorax is a rare and complicated condition of dogs characterized by accumulation of chyle into the pleural space. Effusion of chyle is caused by either obstruction of thoracic duct flow in the cranial mediastinum or erosion of the thoracic duct by the tumor mass. Fossum et al., (1986) stated that the etiology of the disease is not apparent in most of the animals and the most common clinical signs of chylothorax are dyspnea, coughing, weight loss, and anorexia. Birchard et al., (1982) stated that when the animal is unresponsive to conservative treatment, surgical options like thoracic duct ligation (TDL) or embolization, pleurodesis, pleurovenous shunting, pleuropertitoneal shunting, thoracic omentalization, and pericardiectomy can be instituted. Of these, TDL is the most commonly performed procedure. The present paper discusses about the chylothorax in a Mongrel dog.

Case History and Observations
An eight year old, intact, mongrel, male, dog weighing 14.5 kg was brought to Madras Veterinary College Teaching Hospital with the history of anorexia, coughing and labored breathing. On physical examination, mild elevation of rectal temperature (39.8°C), tachypnea, tachycardia, pale mucous membranes and enlarged peripheral lymph nodes were noticed. On abdominal palpation no abnormality was detected. Auscultation of thorax revealed reduced lung sounds and muffled heart sounds. The dog was subjected to radiography which revealed significant pleural effusion that masked thoracic structures including the cardiac silhouette (Fig.1). On thoracic ultrasonography anechoic effusion was visualized on both sides of the cranial mediastinum (Fig.2). Hematological findings included anemia (Hemoglobin of 7.8 g/dl, packed cell volume of 22.2% and total erythrocyte count of 4.03 million cells per cu.mm) with moderate neutrophilia. Serum biochemical parameters were within normal reference ranges. Fine needle aspiration cytology of pre-scapular and popliteal lymph nodes revealed lymphadenitis.

Treatment and Discussion
In order to relieve dyspnea Ultrasonography guided emergency thoracocentesis was performed between 7th to 8th cranial intercostal spaces under local anesthesia (2% lignocaine). The aspirated fluid was milky white in color and the fluid was subjected to ether clearance test and the result was more suggestive of chylous effusion. Unfortunately the dog collapsed following day. This particular dog was dyspneic due to leaking of chyle from thoracic duct. Normally

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Thoracic duct drains into cranial vena cava. Tumor obstruction on the lymph vessels tend to leak lymph from the obstructed vessels.

Chylothorax, characterized by the accumulation of chyle within the thoracic cavity, is a relatively uncommon disease that affects dogs. Hayashi et al., (2005) reported that the Cisterna chyli ablation with thoracic duct ligation may improve the outcome of chylothorax in dogs. Successful treatment using omentisation, which involves bringing a flap of omentum through the diaphragm and anchoring it to the mediastinum between the thoracic duct and the cranial vena cava, has been reported in one dog (Williams and Niles 1999).

References


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