

CARDIOLOGY – WHAT’S YOUR DIAGNOSIS?

REGAN WILLIAMS DVM, DIPLOMATE ACVIM (CARDIOLOGY)

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History:

Signalment - two year old, male, castrated, bichon/poodle mix

- Given away by breeder because he had a loud murmur present since birth
- Clinically normal since that time until two weeks ago when he began coughing
- He has been in close association with other dogs that developed kennel cough
- These dogs have since recovered
- His coughing has been severe and occurs through the night
- Since developing the cough, he has had three episodes of episodic weakness/collapse. During one episode, he lost consciousness and became stiff. He recovered within 30 seconds
- He has maintained a good activity level; however, he has been somewhat slower at the park. (He has always tired easier and panted more than the other dogs)

Physical Exam:

- A grade V-VI continuous murmur was present with a point of maximum intensity over the left heart base. A palpable thrill was present. A grade V-VI continuous murmur was present on the right. Heart rate was elevated, but his rhythm was within normal limits. His respiratory rate and effort were relatively normal with no crackles or wheezes audible (lung sounds were slightly difficult to discern given the loudness of the murmur). His mucous membranes were pink with a capillary refill time of less than 2 seconds. His pulses were normal. Abdominal palpation was within normal limits.

Diagnostics:

- ECG: Normal sinus rhythm with evidence of left ventricular enlargement [R wave 7.2mv]; heart rate = 110 bpm (*See image below; for better viewing download at www.vectoronto.com/newsletter.php*)
- Thoracic radiographs: severe ventricular enlargement; mild left atrial/auricular enlargement; enlargement of the aorta or main pulmonary artery or both; some engorgement of the pulmonary vessels (both arteries and veins); vascular lung pattern diffusely; opacity/consolidation in the area of the right middle lung lobe (*See images on Page 2; for better viewing download at www.vectoronto.com/newsletter.php*)



Discussion:

This dog presented for a significant cough. Given the physical exam findings, history of a congenital murmur, and ECG findings, a patent ductus arteriosus (PDA) was highly suspected. A persistent nocturnal cough would suggest possible congestive heart failure. However, thoracic radiographs demonstrated only mild to moderate left atrial enlargement and consolidation of the right middle lung lobe. Congestive heart failure is normally associated with severe left atrial enlargement and an increased density in the perihilar region. The cardiac changes and overcirculation of the lungs are consistent with a compensated PDA (no heart failure).

Differentials for the consolidation of the right middle lung lobe would include pneumonia, neoplasia, or other primary lung disease. Pneumonia was considered the most likely diagnosis given the history. Antibiotics were started.

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The dog also most likely had “cough drop” or tussive syncope. This is one of the most common causes of syncope in dogs. It typically occurs in small breeds. Syncope most commonly occurs during or immediately after coughing or sometimes gagging. Multiple episodes of syncope are common. Several mechanisms for this type of syncope have been proposed and increased vagal tone is likely to be important, but the exact cause of collapse is unknown. Treatment is aimed at eliminating or decreasing the cough.

Follow-up:

Post treatment thoracic radiographs

Resolution of the consolidation of the right middle lung lobe. Mild to moderate overcirculation of the lungs. Moderate to severe left ventricular enlargement with some aortic enlargement.

Following a course of antibiotics, there was a full resolution of clinical signs.

Don't forget! An echocardiogram was also performed at this time revealing a PDA with moderate volume overload of the left heart. The dog had surgical ligation of the PDA and is doing great. His prognosis is good with almost full reversal of the morphologic changes to the heart expected.



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