Primary Pulmonary Hypertension in Three dogs

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Purpose: Pulmonary hypertension (PHT) is defined as a clinical condition if the systolic pulmonary artery pressure exceeds 30 mmHg. PHT can occur by either primary or secondary disease of the pulmonary vasculatures. Primary PHT in dogs has been rarely reported and is difficult to differentiate from secondary PHT. The purpose of this study is to provide rapid and appropriate guidance to the diagnosis, treatment and prognosis determination through these three cases of PHT.

Materials and Methods: Three dogs presented to the Veterinary Teaching Hospital were diagnosed with PHT. To make a definitive diagnosis, physical examination, complete blood count, serum biochemical analysis, radiography, ultrasonography and phonocardiography were performed. Major abnormalities were polycythemia (n=2), grade IV/VI regurgitant murmur at the right apex and base (n=3), right-sided cardiomegaly (n=3), high tricuspid regurgitant velocity (> 2.8 m/s, n=3) and high pulmonic insufficiency velocity (> 2.2 m/s, n=3). Sildenafil citrate was prescribed with other drugs for symptomatic treatment. For the two dogs with polycythemia, phlebotomy was indicated.

Results: Dog no. 1 (1-year-old male Maltese) died three days after presentation. Dog no. 2 (4-year-old female Maltese) returned to the local clinic and still is alive without severe clinical signs. Dog no. 3 (8-year-old female Shit zhu) died seven days after presentation.

Conclusion: Primary pulmonary hypertension is an uncommon disorder and the diagnosis is fairly difficult. The clinical signs and diagnostic results presented in these three cases would be helpful to aid the diagnosis, treatment and prognosis determination of PHT in future cases.

Key words: pulmonary hypertension, regurgitation, dog

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