Journal of Veterinary Cardiology (2015) ■, ■–■

Journal of Veterinary Cardiology
ESVC

www.elsevier.com/locate/jvc

CASE REPORT

Vascular hamartoma in the right ventricle of a dog: Diagnosis and treatment☆

Sonja S. Tjostheim, DVM [a], Heidi B. Kellihan, DVM [a,*], Rebecca A. Csomos, VMD, PhD [b], Jonathan McAnulty, DVM, MS, PhD [b], Howard Steinberg, VMD, PhD [c]

[a] *Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin, 2015 Linden Dr., Madison, WI 53706, USA*
[b] *Department of Surgical Sciences, School of Veterinary Medicine, University of Wisconsin, 2015 Linden Dr., Madison, WI 53706, USA*
[c] *Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin, 2015 Linden Dr., Madison, WI 53706, USA*

Received 13 March 2015; received in revised form 23 June 2015; accepted 7 July 2015

KEYWORDS
Intracardiac mass;
Syncope;
Pulmonic stenosis;
Right heart enlargement;
Pulmonic valve cyst

Abstract A 6-month old Labrador retriever was presented with an acute history of collapse during exercise. A grade III/VI left basilar systolic murmur and thoracic radiographs showing severe right heart enlargement with an enlarged main pulmonary artery were most consistent with a clinical diagnosis of pulmonic stenosis. Echocardiography revealed an intracardiac mass partially obstructing the right ventricular outflow tract. The mass was surgically excised, and histopathology diagnosed a benign vascular hamartoma of the right ventricle. Short-term follow-up showed resolution of clinical signs with no evidence of local recurrence.

☆ A unique aspect of the Journal of Veterinary Cardiology is the emphasis of additional web-based images permitting the detailing of procedures and diagnostics. These images can be viewed (by those readers with subscription access) by going to http://www.sciencedirect.com/science/journal/17602734. The issue to be viewed is clicked and the available PDF and image downloading is available via the Summary Plus link. The supplementary material for a given article appears at the end of the page. Downloading the videos may take several minutes. Readers will require at least Quicktime 7 (available free at http://www.apple.com/quicktime/download/) to enjoy the content. Another means to view the material is to go to http://www.doi.org and enter the doi number unique to this paper which is indicated at the end of the manuscript.

* Corresponding author.
E-mail address: kellihanh@vetmed.wisc.edu (H.B. Kellihan).

http://dx.doi.org/10.1016/j.jvc.2015.07.004

Please cite this article in press as: Tjostheim SS, et al., Vascular hamartoma in the right ventricle of a dog: Diagnosis and treatment, Journal of Veterinary Cardiology (2015), http://dx.doi.org/10.1016/j.jvc.2015.07.004

Intracardiac masses should be considered a differential diagnosis for patients with acute-onset syncope.

Abbreviations

MPA	main pulmonary artery
PV	pulmonic valve
RA	right atrial
RV	right ventricle
RVOT	right ventricular outflow tract
TEE	transesophageal echocardiogram
2-D	two-dimensional

A 6-month-old, 18 kg, female, Labrador retriever dog was presented to the cardiology service at the University of Wisconsin Veterinary Medical Teaching Hospital (UW-Veterinary Care) with a 1-week history of syncope. The dog had collapsed approximately 15 times in total, and the episodes were associated with exercise. She was previously evaluated by a specialty referral center, and was found to have a heart murmur. Thoracic radiographs showed severe right ventricular enlargement with a bulge at the level of the main pulmonary artery (MPA) (Fig. 1A). A normal vertebral heart score of 10.0 was calculated (reference range 9.7 $\pm$ 0.5).[1]

At presentation the dog was bright, alert and responsive with a heart rate of 200 bpm. She had a grade III/VI left basilar systolic heart murmur with a split second heart sound. Her rhythm was regular, and femoral pulses were strong and synchronous. Electrocardiographic findings included a sinus tachycardia, and a mean electrical axis of $+95^{\circ}$. Serum biochemistry panel showed a mild hyperphosphatemia (8.1 mg/dL, reference range 2.2—7.9 mg/dL) and a mild alkaline phosphatase elevation (162 U/L, reference range 20—157 U/L), which were consistent with her young age. A heartworm antigen test was negative.

A standard transthoracic echocardiogram was performed in right and left lateral recumbency using a phased-array transducer with a 5.0 MHz frequency. The continuous electrocardiogram monitoring showed a 2.6 $\times$ 5.0 cm, mobile, cystic mass in the region of the pulmonic valve (PV) (Fig. 2A, Video 1). The PV leaflets could not be

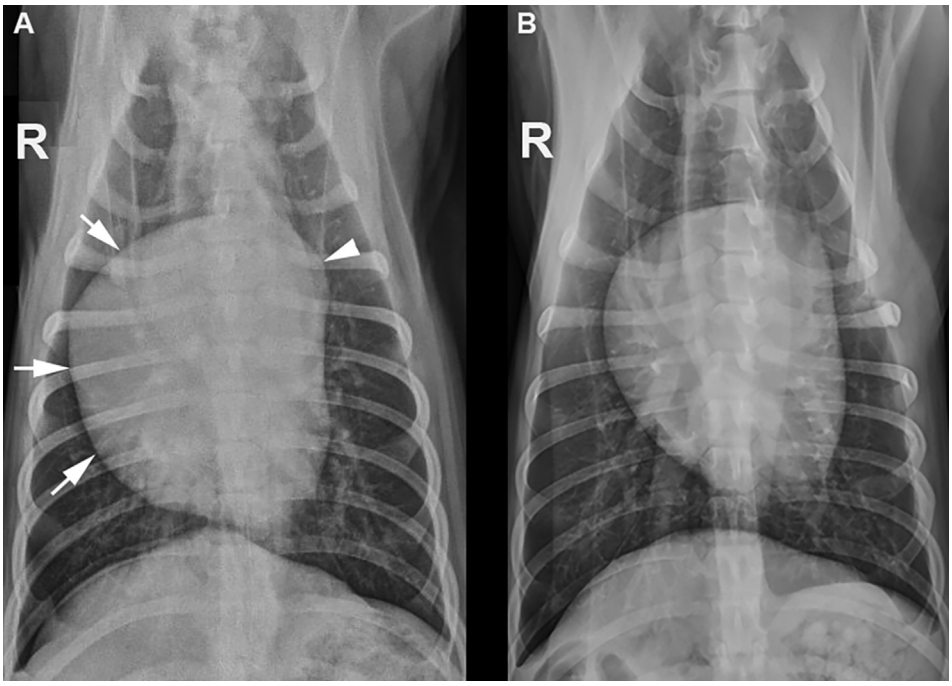

Figure 1 Thoracic radiographs before and after surgery. A. Ventral-dorsal radiograph performed 1 week before surgery demonstrated right-sided heart (arrows) and main pulmonary artery enlargement (arrow head). B. Ventral-dorsal radiograph performed 1 month after surgery demonstrated improvement of the patient's right-sided heart and main pulmonary artery enlargement.

Please cite this article in press as: Tjostheim SS, et al., Vascular hamartoma in the right ventricle of a dog: Diagnosis and treatment, Journal of Veterinary Cardiology (2015), http://dx.doi.org/10.1016/j.jvc.2015.07.004