



PATIENT

Barkley Oriel 15041C

SPECIES

Canine

BREED

American Staffordshire Terrier

SEX

Male Neutered

AGE

13 years

WEIGHT

46.5lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Tom McNeill

HOSPITAL NAME

SVS Imaging CT

REFERRING VET

Dr. Custead

INVOICE

281122

DATE

1/5/23

PRESENTING CLINICAL SIGNS

History: Presented to the MVS Medical Oncology service on 1/3/22 for a recheck of his prior multiple cancers. Barkley has a history of recurrent, apocrine gland adenocarcinoma that was surgically excised on 4/23/20 with incomplete margins, bilaterally. The right sublumbar lymph node also removed-reactive on histology. Recurrence and surgical resection of left anal sac on 12/14/20. He also has a history of a malignant spindle cell tumor of the cecum that was completely excised on 6/18/21. R/O: GIST vs leiomyosarcoma. Histology: Mitotic count: 1, Vascular invasion: Not Observed. Also, history of splenic hemangiosarcoma completely excised on 6/18/21. Started on single-agent doxorubicin on 7/8/21, completed September 2021. Additional history of hepatomegaly with liver biopsy performed and histology revealed hepatocellular vacuolar degeneration, mild, extensive. Barkley also has a prior history of heartworm disease. Presented to ER today (1/3) for multiple collapse episodes (5) overnight and decreased appetite for past 3-4 days. Febrile on presentation (104). Barkley has been hospitalized since over the past 2 days. His fever has resolved.

-Abnormal PE/Chem/CBC/UA Results: RBC - 3.72 (L) (5.65-8.87) HCT - 24.8 (L) (37.3-61.7) HGB - 9.0 (L) (13.1-20.5) WBC - 16.85 (H) (5.05-16.76) NEU- 13.76 (H) (2.95-11.64) Mono- 2 (H) (0.16-1.12) SDMA-20 (H) (0-14) ALT- 1166 (H) (10-125) ALKP- >2000 (H) (23-212) GGT- 85 (H) (0-11) TBIL- 4.9 (H) (0.0-0.9) CHOL- 456 (H) (110-320) K- 2.7 (L) (3.5-5.8) Telemetry was started on 1/4, runs of atrial tachycardia were noted while resting. Overnight it was reported that an arrhythmia was noted on auscultation consistent with occasional VPC. ECGs overnight showed a normal sinus rhythm, HR between 70-100, with an occasional respiratory sinus arrhythmia

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with no left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. Trivial aortic and pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.2	2.2	NM	1.2	34	64	0.36
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	104	1.7	1.1	21.1	2.8	3.9	2.5
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)

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**Note: All measurements based upon multi-modal images and methods. An average value is reported.*

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002

20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing mild mitral and trace tricuspid regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. A small aortic leak is noted, and a baseline blood pressure is recommended, No concurrent issues such as systolic dysfunction or pulmonary hypertension are noted in this study.

No structural cause for collapse episodes is seen in this study. Small intra or extra-cardiac masses are not entirely ruled out with 2D ultrasound; however, suspicion is relatively low based upon what is seen here. Advanced imaging, such as a thoracic CT or MRI can be considered if suspicion is high. Arrhythmias are noted in the history, which may certainly be related to syncope depending on specific characteristics; however, further comment cannot be made without an ECG tracing.

In a dog with no significant left atrial enlargement, no cardiac medications are clearly indicated. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1). Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

PLAN

Baseline BP recommended. Consider thoracic imaging as discussed. Consider ECG evaluation, particularly if the arrhythmias persist.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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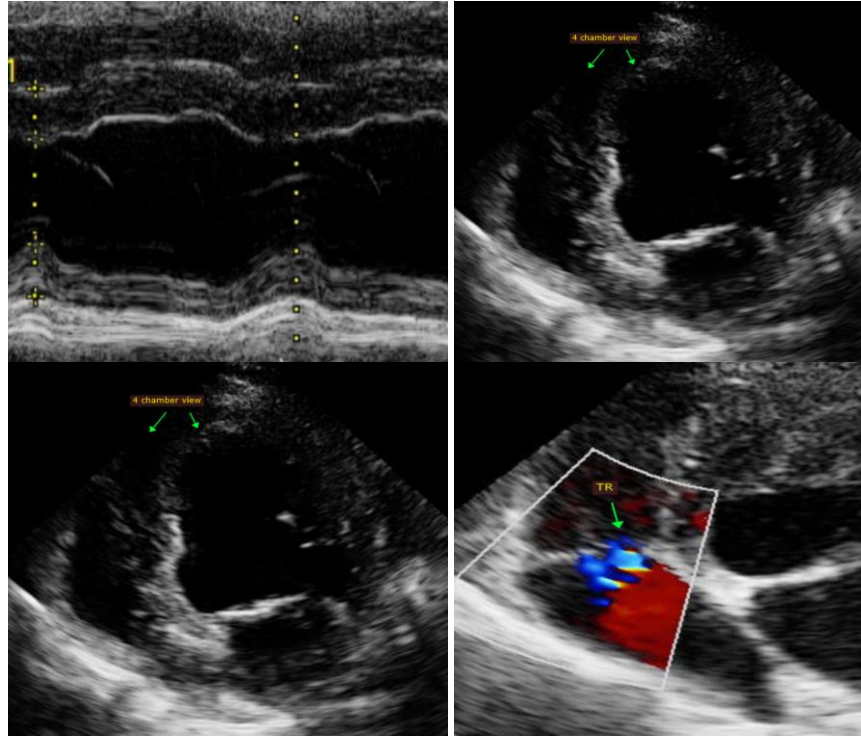
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IMAGES



The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Maggie Machen Lamy, DVM
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