



PATIENT

Hank Archer

SPECIES

Canine

BREED

Yorkie

SEX

Male

AGE

9 years

WEIGHT

10.7lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Sands Hill Mobile
Veterinary Ultrasound

HOSPITAL NAME

Pine Valley Animal
Hospital

REFERRING VET

Dr. Tarter

INVOICE

23241

DATE

3/23/22

PRESENTING CLINICAL SIGNS

History: Collapsing trachea, coughing blood. Now Hank is vomiting blood. Respiratory distress during blood draw. Suspicious area in cranial mediastinum on CXR.

-Abnormal PE/Chem/CBC/UA Results: HCT and PLT normal, Pancreatic enzymes elevated, Amylase 1894 and Lipase over 6000.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Normal cardiac silhouette. No obvious evidence of CHF. Soft tissue opacity in the cranial thorax. Significant cervical tracheal collapse.

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 normal to small left atrial diameter. Normal MR velocity. Normal to small LV diameter with adequate myocardial function. The tricuspid valve appears normal with trivial tricuspid regurgitation. 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. Mildly increased flow velocity through the LVOT and RVOT. No obvious aortic or pulmonic insufficiency. No pericardial effusion noted. Possible pleural effusion in some views; inconsistent. 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	5.3	NA	1.4	1.1	50	92	NM
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	210	1.9	2.0	4.9	1.0	1.1	0.8
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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)
				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)

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
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing mild mitral and trivial tricuspid regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. The patient has some markers of dehydration, including a small LV chamber and an elevated flow velocity through both great vessels. Depending on when blood work was submitted, reassessing patient hydration/volume status is recommended. Additionally, no obvious extra or intra-cardiac masses are visualized. That being said, an extensive evaluation of the pulmonary parenchyma or mediastinum is outside the scope of an echocardiogram. If concern persists, a Radiologist review of the films, focused thorax ultrasound, and/or thorax CT scan may be beneficial. Finally, scant pleural effusion is suspected in some views, although this is inconsistent. If a true finding, this is certainly noncardiac in origin and the volume is insignificant at this time. No additional issues are identified.

Given these findings, the cough is unlikely to be cardiac in origin and primary respiratory causes should be considered. Consider further respiratory work up/treatment (hydrocodone, taper course of steroids, Enrofloxacin, TTW/BAL, etc.).

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.

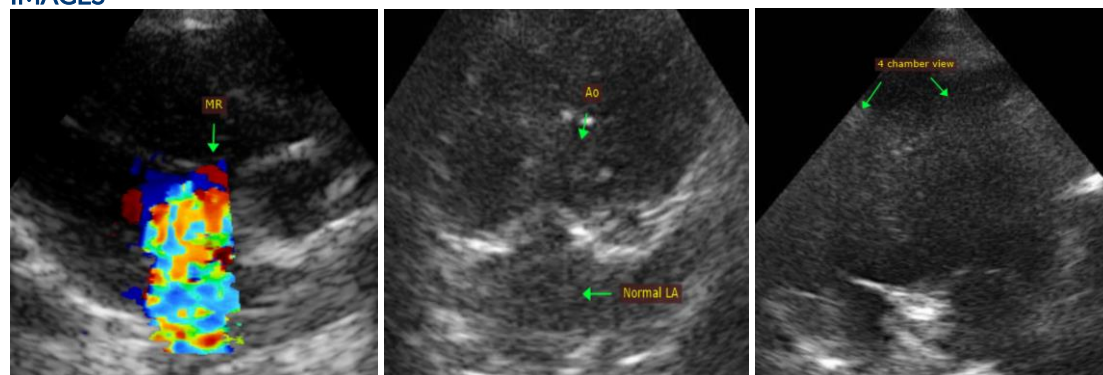
Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively 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

Consider Radiologist review of the films, focused thorax ultrasound, thoracic CT scan as discussed.

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

IMAGES





PATIENT

Hank Archer

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.

SPECIES

Canine

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

BREED

Yorkie

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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