

**PATIENT**

Kiba Lardiari

SPECIES

Canine

BREED

Pitbull Mix

SEX

Male Neutered

AGE

12.26.11

WEIGHT

57lbs

INTERPRETED BYMaggie Machen Lamy,
DVM, DACVIM
(Cardiology)**HOSPITAL NAME**Eastern Animal
Hospital**REFERRING VET**

Dr. Warner-Jones

INVOICE

23278

DATE

3.24.22

PRESENTING CLINICAL SIGNS

History: Presented for mass removal. Presurgical exam finds 2/6 murmur- new finding. No clinical signs of cough etc. reported by family.

-Pertinent abnormal PE/Chem/CBC/UA Results: sa 105.

-Current medications: None. 600mg Gabapentin 2 hours prior to scan.

-Blood pressure: 118mmHg

-Sedation used: Not required to complete full diagnostic ultrasound.

-Pertinent previous ultrasound results: No previous.

-STAT: Not requested

-Imaging performed by: Andi Parkinson, RDMS.

ELECTROCARDIOGRAPHIC FINDINGS

A brief six lead ECG is available at 25 and 50mm/s; 10mm/mV. The average heart rate is 140bpm (range 130-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild mitral valve thickening with no prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with mild left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Normal velocity. The right heart dimensions are normal; however, a large hypoechoic well-demarcated lesion is identified associated with the right AV groove (see below); 3.6 x 2.8cm. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial effusion. No pleural effusion noted.

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	4.5	2.4	NM	1.2	28	50	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	124	1.2	0.7	25.9	2.5	4.0	2.9
*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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing mild mitral and tricuspid regurgitation. Mild left atrial enlargement indicates the current risk for complication is low. Of greater concern, cardiac neoplasia is identified associated with the right atrium. The most likely tumor type given this location is a hemangiosarcoma (HSA), with other tumor types less likely, particularly given the signalment. The mass appears primarily extra-cardiac in origin; however, infiltration into the right atrium is not entirely ruled out. The ECG and BP are unremarkable, without obvious abnormalities.

The prognosis with cardiac hemangiosarcoma is poor, with an MST of only 2-3 months. The emergent limiting factor is often recurrent hemorrhage into the pericardium. It is quite unusual to identify a discrete mass in an asymptomatic dog without a pericardial bleed; however, the risk for this persists going forward. A pericardial window or subtotal pericardiectomy may relieve clinical signs, however, is not typically recommended due to poor prognosis. Patients with cardiac neoplasia are at high risk for recurrent hemorrhage and development of tamponade, malignant arrhythmias/sudden death in the future. **Chemotherapy and/or radiation can be discussed with an Oncologist and may extend average survival time.**

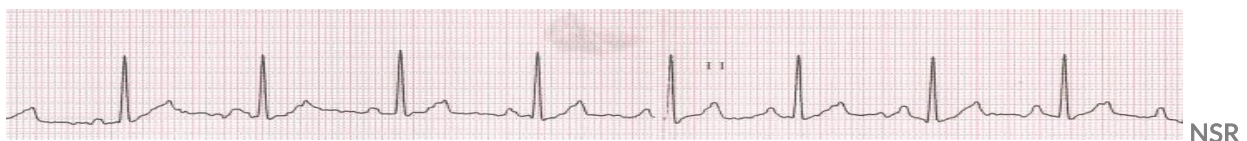
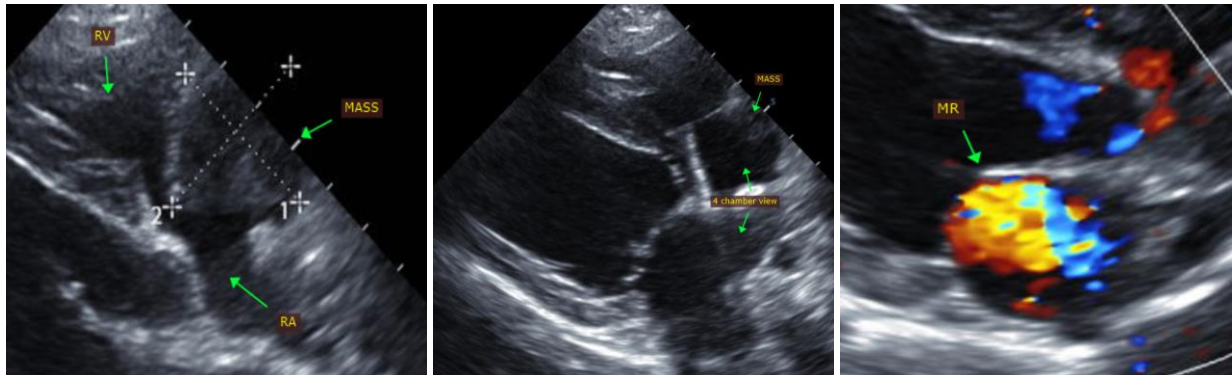
Going forward there is high risk for collapse, right-sided congestive signs (ascites), and or lethargy. Reassess on an emergent basis should any clinical signs occur. The rapid rebleed in this case is concerning, and if this does not correct itself in the near future humane euthanasia should be considered.

No cardiac medications are clearly indicated at this time. Over the counter herbal supplement Yunnan Baiyao may help decrease risk of bleeding, however true benefit is speculative (1 capsule PO BID).

Anesthetic risk is considered mild. 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. **This patient has an elevated risk for malignant ventricular arrhythmias, and close monitoring of the ECG is advised throughout and following the procedure.**

A recheck of tumor dimension and fluid status can be considered in 1-2 months, sooner if development of clinical signs.

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. 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.

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