



PATIENT

Phoebe Maria Parrilla
Lewis

SPECIES

Canine

BREED

Minature Schnauzer

SEX

Female Spayed

AGE

14 years

WEIGHT

19.8lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

G. Ferrer, DVM

HOSPITAL NAME

Paseos Veterinary
Center

REFERRING VET

Dr. Ortiz

INVOICE

23741

DATE

4/18/22

PRESENTING CLINICAL SIGNS

History: Presented for evaluation as she had a syncopal episode 4 days ago. Weak and falling for the past 4-5 days. History of splenic mass that was diagnosed on 3-6-22 and removed on 3-8-22. The splenic mass was diagnosed as hemangiosarcoma by histopathology. History of previous IMHA. Also, a heart murmur was diagnosed 2 years ago, and a previous echocardiogram was performed. Was started 2 years ago with Vetmedin 5mg: 1/2 BID which patient is currently on and yunnan paiyao.

-Abnormal PE/Chem/CBC/UA Results: CBC 4-18-22 4-14-22 RBC : 2.86 (5.65 - 8.87 M/ μ L) 4.74 Hematocrit 16.6 (37.3 - 61.7 %) 29.4 Hemoglobin 6.3 (13.1 - 20.5 g/dL) 10.1 MCV 58.0 (61.6 - 73.5 fl) 62.0 MCHC 38.0 (32.0 - 37.9 g/dL) 34.4 Platelets 44 (148 - 484 K/ μ L) 154 Chem: 4-14-22 ALP 261 (23 - 212 U/L) Rest is WNL.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with mild left atrial dilation. Normal MR velocity. Borderline LV dilation with adequate myocardial function. The tricuspid valve appears thickened with mild to moderate tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology. The AV groove is hyperechoic, most consistent with fat. 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 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	5.7	2.7	NM	1.4	40	72	0.28
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	108	0.8	0.9	9.0	2.2	3.1	1.8
*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 moderate mitral and mild to moderate tricuspid regurgitation. Mild left atrial enlargement indicates the current risk is low at this time. No obvious additional issues such as pulmonary hypertension or systolic dysfunction are noted at this time. No obvious metastatic lesions are noted associated with the right heart. It is important to note that ultrasound is largely insensitive for extra-cardiac screening and a thoracic CT scan should be considered if suspicion is high.

No definitive cardiac cause for syncope is seen in this study (i.e., no PAH, no obvious rupture or tears, reasonable cardiac output, etc.) and other causes should be considered. These possible causes include vasovagal events, intermittent arrhythmias, neurologic/systemic issues, etc. **The patient is notably anemic, and this is more likely the underlying issue.** A baseline BP should be obtained. If the episodes persist despite correction of hematologic abnormalities, further evaluation such as an ECG/holter monitor should be considered.

Given these findings, it is responsible to continue Pimobendan given the degree of disease and risk for progression.

Anesthetic risk is considered mildly elevated. Once on the medication for 3-5 days, 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.

If steroids are necessary for an immune-mediated process, these should certainly be utilized as this is the more concerning issue at this time. No alternation of the dose is necessary; however, monitoring for signs of acute intolerance is recommended, such as a change in RR/RE.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

Baseline BP. Continue Pimobendan 0.25- 0.3mg/kg BID. If episodes persist despite correction of anemia, consider further evaluation, such as an ECG/holter monitor.

Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.



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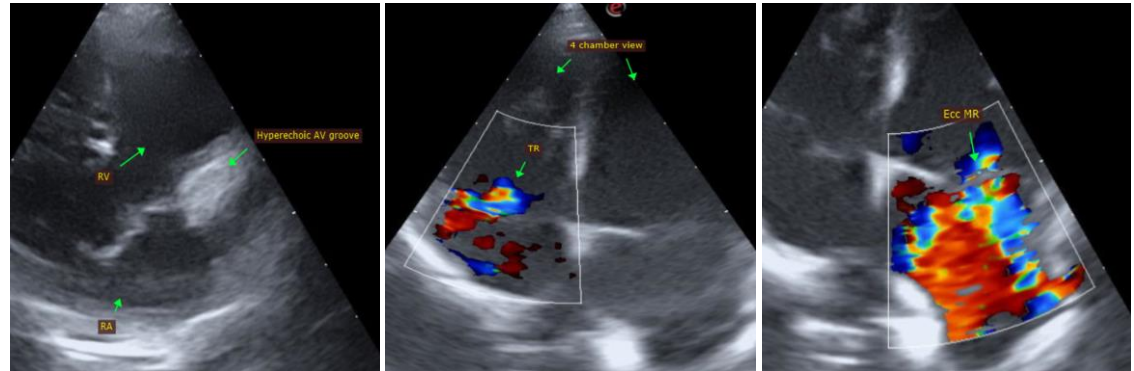
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IMAGES



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. 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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