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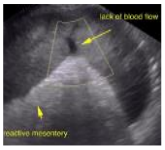
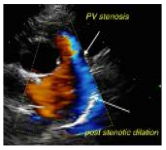
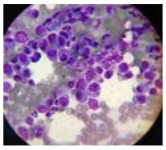
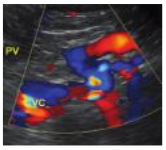
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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1-800-838-4268 info@sonopath.com

PATIENT
Briclan Baker

SPECIES
Canine

BREED
Dalmation

SEX
Female Spayed

AGE
13 years

WEIGHT
48.8lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Rachel Runnells, RVT

HOSPITAL NAME
SVS Imaging KC

REFERRING VET
Dr. Fischer

INVOICE
26035

DATE
8/25/22

PRESENTING CLINICAL SIGNS

History: Rapid heart rate, coughing/gagging. Murmur has been detected in history. Placed on Lasix and Vetmedin approx. 3 weeks ago. Has since discontinued Lasix due to dehydration per O (staff member). Developed Ataxia several days ago and then falls. Could possibly be due to arthritis, or old injury, but seems to be getting weaker, and could not stand day of scan.
Abnormal PE/Chem/CBC/UA Results: ALT, ALKP, Chol, Na, Cl slightly elevated. RBC/HCT low 4.59. Chronic anemia, 34.2%, MCV 74.6 (H), MCH 31.4 (H), PLT 582 (H). Labs taken 8-22.

ECHOCARDIOGRAM FINDINGS

2D, m-mode and Doppler imaging are available. Diffuse thickening of mitral valve leaflets (anterior> posterior) with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Moderate LV dilation with hyperdynamic myocardial function. The tricuspid valve appears thickened, with mild to moderate tricuspid regurgitation. Velocity consistent with mild pulmonary hypertension. Mild right atrial and ventricular dilation consistent with early pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No pulmonic or aortic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed. Irregular rate/rhythm 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	5.5	3.2	NM	2.0	43	80	0.5
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	145	1.2	1.1	9.1	4.7	6.1	3.5
*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)
**Note: All measurements based upon multi-modal images and methods. An average value is reported.*				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

The cause of the murmur is chronic degenerative valve disease causing severe mitral and mild to moderate tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Mild TR is also noted, with evidence of early pulmonary hypertension. No additional issues such as systolic dysfunction are identified.

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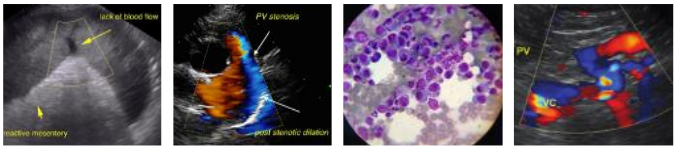

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The described cough is likely multi-factorial in origin, including a mechanical component due to cardiomegaly, possible concurrent airway disease and/or early CHF given the severity of disease. Screening chest radiographs are recommended. Regardless of findings, given the symptoms and echo findings, full lifelong **cardiac support is recommended as below** including Lasix therapy. Depending on clinical response to the medications, cough suppression may also be useful. **Monitoring of sleeping breathing rates in the future will be paramount to determine the origin of any future cough.** The average survival of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future. Monitoring of renal values is recommended lifelong.

How these findings correlate with reported ataxia remains unknown. Some irregularity to the heart rate and rhythm throughout the study and an ECG is strongly recommended. That being said, even patients with arrhythmias and active CHF are typically able to stand and other contributing issues are more likely (neurologic, systemic or orthopedic); however, response to therapy will be telling. Anemia is certainly unrelated and further systemic evaluation is advised.

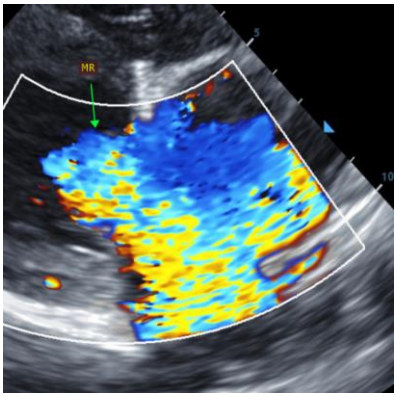
Omega fatty acid supplementation and mild salt restriction may also be of some long term benefit. Monitor for development of a worsening cough, labored breathing, exercise intolerance or collapse episodes.

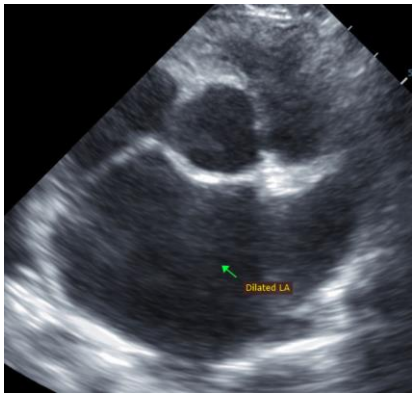
PLAN
Screening BP, CXR, and ECG are recommended. Administer Pimobendan 0.3mg/kg PO q12h. Administer Lasix 1-2 mg/kg PO q12h. Administer spironolactone 1-2mg/kg PO q12h. Consider hydrocodone with homatropine (0.2-0.4mg/kg PO up to q4-6 hours PRN) if cough persists despite normal SRRs. Further neurologic, orthopedic and systemic evaluation is advised.

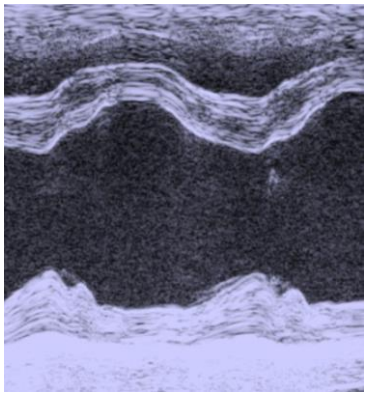
A renal panel and BP are recommended in 10-14 days, then every 3-4 months on diuretics to ensure tolerance of medications. If doing well at that time and BP >130mmHg, institute ACEI 0.5mg/kg PO q12h.

A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise/persist.

IMAGES







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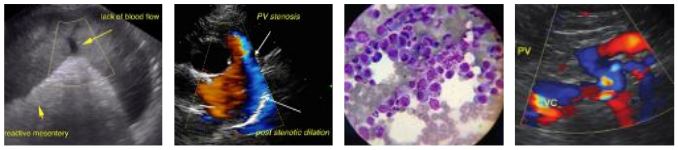

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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