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Pet Animal Ultrasound Service
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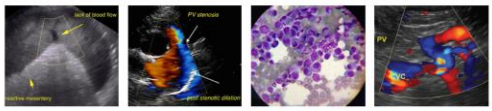

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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PATIENT
Jackson Mackey

SPECIES
Canine

BREED
Havanese

SEX
Male Intact

AGE
8 years

WEIGHT
9.9lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
East Boston Animal Hospital

REFERRING VET
Dr. Chopra

INVOICE
25632

DATE
8/5/22

PRESENTING CLINICAL SIGNS

History: Collapse episode while walking. No LOC; off for 30 seconds then fully recovered. On exam: grade IV/VI systolic murmur. Started Pimobendan 1.25mg BID. After echocardiogram: 160ml serosanguinous fluid removed from abdomen.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is increased with hyperdynamic myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is markedly dilated.
Mitral valve: The mitral valve is diffusely thickened with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with a normal velocity.
Aortic valve/Aorta: The aortic valve is normal. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: The right ventricle is dilated with minimal hypertrophy.
Right atrium: Moderate to severe RA dilation. No evidence of tamponade.
Tricuspid valve: The tricuspid valve appears thickened and prolapsing with severe tricuspid regurgitation; velocity consistent with moderate pulmonary arterial hypertension.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow. The MPA and branches are dilated.
Pericardium/other: Small volume pericardial effusion noted. Scant pleural effusion suspected. No obvious cardiac masses. Ascites seen on subcostal views.

2-Dimensional Measurements

Ao diam (cm)	1.2
LA diam (cm)	3.8
LA:Ao (Swe)	2.9
IVS thickness (cm)	0.5
LVID diastole (cm)	3.3
PW thickness (cm)	0.5
LVID systole (cm)	1.8
FS (%)	45

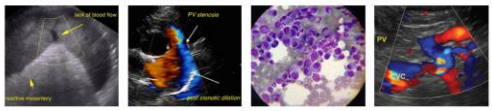
Doppler Measurements

PV Vmax (m/s)	0.52
AoV Vmax (m/s)	0.61
MR Vmax (m/s)	4.1
TR Vmax (m/s)	3.6
TR PG (mmHg)	53

INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease causing severe mitral and tricuspid regurgitation. Significant 4 chamber dilation indicates the risk for biventricular congestive heart failure is elevated. Additionally, there is moderate pulmonary hypertension present, which puts the patient at risk for right-sided congestion, and/or syncope. No additional issues are identified.

Pericardial and abdominal effusion are identified. In a patient with this degree of heart disease, PCE is either due to a small left atrial tear (leading to hemorrhage into the pericardial space) or right ventricular failure. An acute syncopal episode may reflect a tear; however, this can also develop simply secondary to the effusion being present. Regardless, either is possible in this patient with both severe LA dilation and significant pulmonary hypertension, and treatment for both is recommend including sildenafil as below.



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Strict activity restriction and supportive care is advised until the fluid is able to reabsorb, as there is a high risk for decompensation and further episodes. If any syncope/decompensation occurs acutely in the future, then the amount of PCE should be reassessed.

The prognosis is poor long term, with a predicted survival time of <6 months. Patient will always be at high risk for recurrent biventricular CHF, LA tear, progressive cough and/or malignant arrhythmias/sudden death in the future.

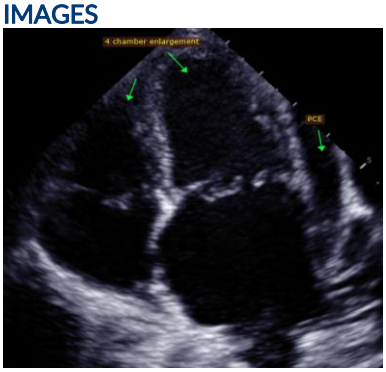
RECOMMENDATIONS

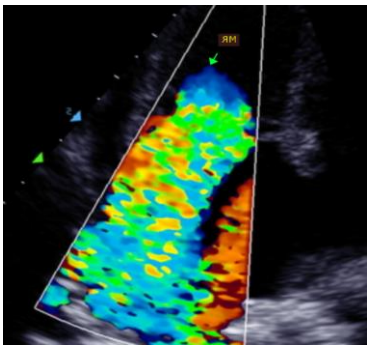
- Continue Pimobendan as prescribed.
- Institute Lasix 1-2mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Institute Sildenafil 1-2mg/kg PO q12h.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised, as there is high risk for complication. Risk: benefit ratio should be considered. Consider consultation with and/or referral to a facility with an anesthesiologist. Should you elect to proceed, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload, while considering comorbidities, hydration status, BP, etc. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.
- Strict activity restriction.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
-

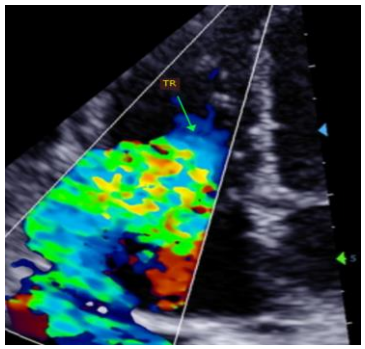
PLAN

- Recheck renal values in 1-2 weeks, then every 3-4 months on diuretic therapy. If BP is >130mmHg and patient is doing well at home, institute ACE-I 0.5mg/kg PO q12h.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

IMAGES







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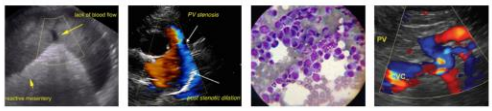

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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