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Pet Animal Ultrasound Service
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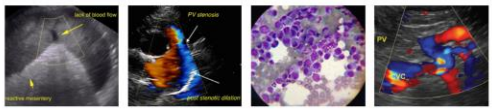


SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Mochi Chhoevn

SPECIES
Canine

BREED
Chihuahua

SEX
Male Intact

AGE
10 years

WEIGHT
8.3lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
East Boston Veterinary Hospital

REFERRING VET
Dr. Chopra

INVOICE
21219

DATE
9/26/21

PRESENTING CLINICAL SIGNS

History: Coughing; arrhythmia; grade IV/VI systolic murmur. Started furosemide 10mg/ml - 0.4ml BID; Pimobendan 1.25mg, 1 t q12h.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 20mm/mV. The average heart rate is 175bpm (range 150-188bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. P and QRS morphologies are positive. Isolated APCs throughout. No ventricular premature contractions, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with APCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: Significant LV dilation with hyperdynamic myocardial function.
Left atrium: The left atrium is markedly dilated.
Mitral valve: Diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with a normal velocity.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: Mild RV dilation.
Right atrium: Mild right atrial dilation.
Tricuspid valve: The tricuspid valve appears thickened, with moderate tricuspid regurgitation. Normal velocity.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. The MPA appears normal. Normal pulmonic outflow velocities with laminar flow. No PI.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

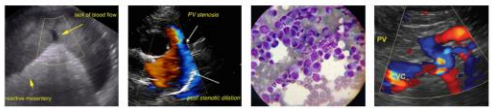
Ao diam (cm)	1.3
LA diam (cm)	3.2
LA:Ao (Swe)	2.5
IVS thickness (cm)	0.53
LVID diastole (cm)	3.2
PW thickness (cm)	0.61
LVID systole (cm)	1.3
FS (%)	60

Doppler Measurements

PV Vmax (m/s)	0.83
AoV Vmax (m/s)	1.2
MR Vmax (m/s)	5.5
TR Vmax (m/s)	2.2
TR PG (mmHg)	20

INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease causing severe mitral and moderate tricuspid regurgitation. Marked left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. No additional issues are identified.



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The ECG confirms APCs are the cause of the arrythmia. These are ectopic beats generated from abnormal conductive or fibrotic tissue in the atria of the heart muscle, and even frequent single beats will often cause no clinical signs in dogs. When sustained however, supraventricular tachycardia or atrial fibrillation can lead to symptoms such as lethargy and collapse.

In this case, these ectopic beats are no question secondary to significant structural disease likely exacerbated by stress. In a dog without collapse, no treatment is warranted; however, close monitoring for progression to sustained arrhythmias/AF is advised. The primary symptom of this would be syncope or acute lethargy.

Fish oil supplementation is recommended for dogs with arrhythmias (1000-2000mg of omega 3 and 6 once to twice daily).

In light of a clinical cough and severity of disease seen here, there is great concern for early congestive heart failure and continued medications are warranted lifelong as below.

The average survival time 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.

RECOMMENDATIONS

- Administer Lasix 1-2mg/kg PO q12h.
- Administer Pimobendan 0.3mg/kg PO q12h.
- Institute ACE-I 0.5mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Cough suppression to improve QOL can also be considered if needed (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
- Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home.
- Elective anesthesia is not advised.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

PLAN

- Recheck renal values and BP in 1-2 weeks then every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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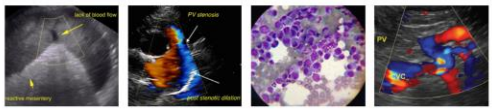

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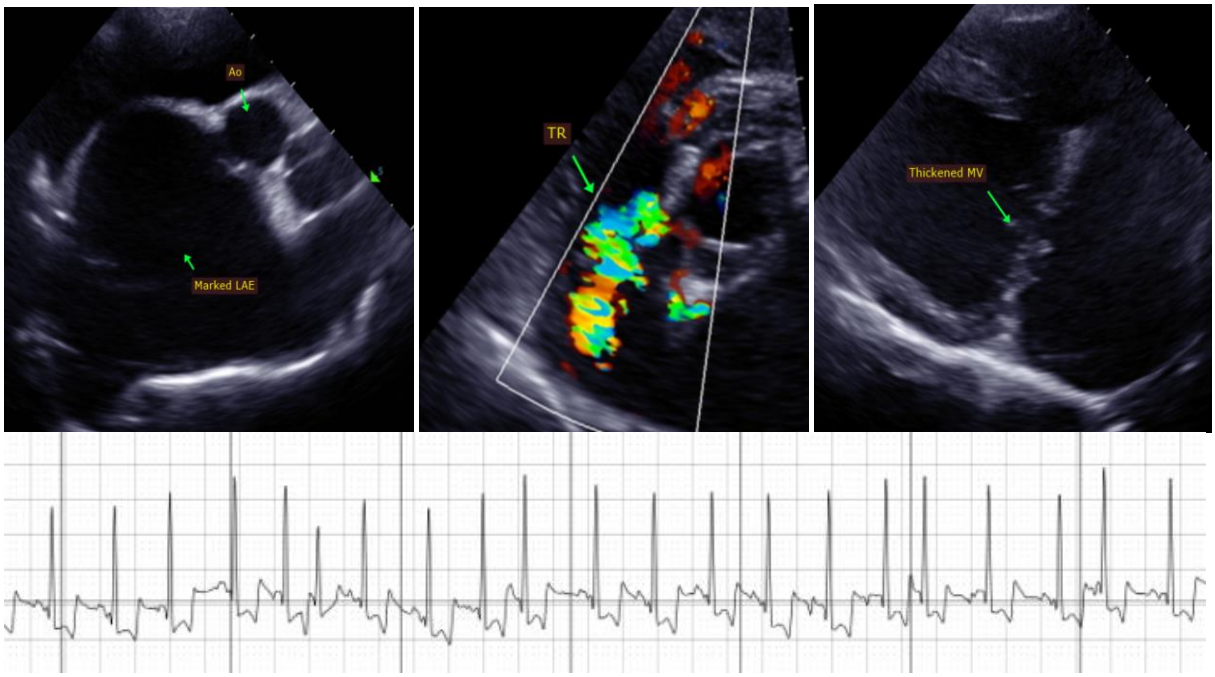
IMAGES



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.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
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