SonoPath
Clinical Sonography & Telecytology
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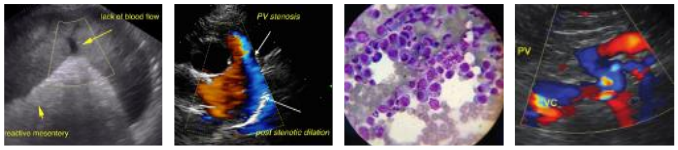

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Ollie White

SPECIES
Canine

BREED
Dachshund

SEX
Male Neutered

AGE
14 years

WEIGHT
19.8lbs

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

IMAGING PERFORMED BY
Dana Alterman, RDCS, LVT

HOSPITAL NAME
Eubank Animal Clinic

REFERRING VET
Dr. Benham

INVOICE
30549

DATE
5/2/23

PRESENTING CLINICAL SIGNS

History: Heart murmur. Bladder cancer + fluid in abdomen. Coughing.
-Current medications: Vetmedin 2.5mg PO BID, furosemide and piroxicam.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 2mm/mV. The average heart rate is 160bpm (range 136-188bpm). 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. A single APC is identified. No VPCs, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation. Single isolated APC.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is mildly thickened with minimal prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. Severe left atrial enlargement. There is moderate left ventricular dilation. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is mildly dilated. Moderate right atrial and ventricular dilation. The tricuspid valve is thickened with mild septal prolapse and moderate tricuspid regurgitation. Velocity consistent with severe pulmonary hypertension. No pulmonic insufficiency or aortic insufficiency. No pericardial or pleural effusion. No obvious cardiac tumors. Ascites seen on subcostal views.

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	5.2	4.8	2.1	2.3	49	80	0.1
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	NM	1.3	1.5	9.0	3.1	4.5	2.3
*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

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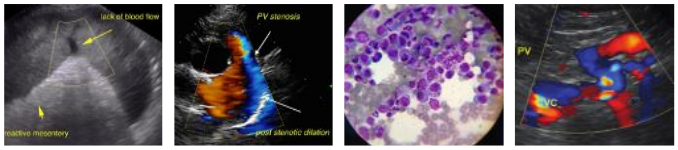

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral and moderate tricuspid regurgitation is identified. Severe left atrial dilation indicates the risk for spontaneous left-sided congestive heart failure is elevated. Additionally, there is severe pulmonary hypertension based upon the TR velocity and appearance of the right heart, which puts the patient at risk for right-sided congestion, and/or syncope. Given these findings, the ascites is most likely cardiogenic in origin and warrants full lifelong cardiac supportive medications including diuretics as below.

The ECG is largely normal with a single APC identified. This is no question due to atrial dilation and stress in this patient in crisis. No treatment is warranted based upon what is seen here.

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 worsening collapse episodes. Monitoring of sleeping breathing rates is recommended as the best way to screen for progression to CHF at home. Unfortunately, there is high risk for spontaneous CHF, worsening cough and/or malignant arrhythmias and sudden death in the future. The prognosis with this degree of disease is poor, with most dogs able to maintain a good QOL on medications for an average of 8-12 months.

Elective anesthesia is not advised.

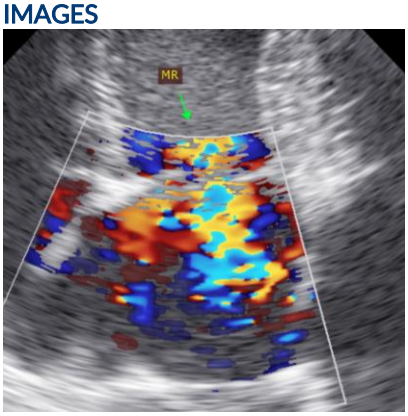
PLAN

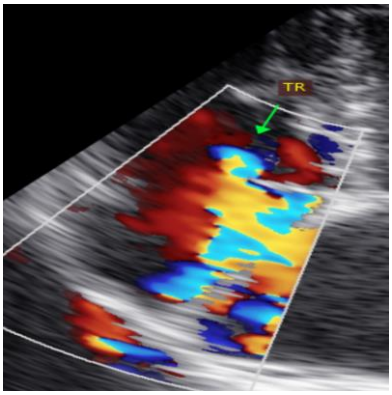
Therapeutic abdominocentesis as needed for discomfort/inappetence. Initiate spironolactone 1-2mg/kg PO q12h. Institute Sildenafil 1-2mg/kg PO 8h. Administer Lasix 1-2mg/kg PO q12h. Administer Pimobendan 0.25-0.3mg/kg PO q12h.

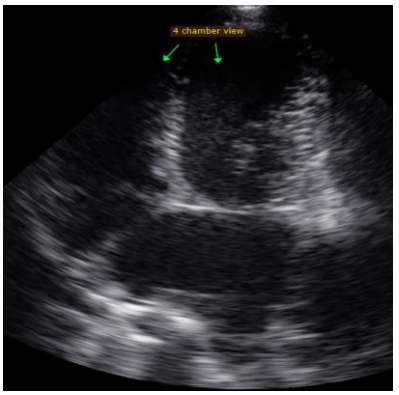
Recheck renal values and BP in 1-2 weeks, then every 3-4 months on diuretic therapy. If BP is >130mmHg and patient is doing well at home, institute ACEI 0.5mg/kg PO q12h (if hypotensive do not utilize).

A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if clinical signs arise.

IMAGES







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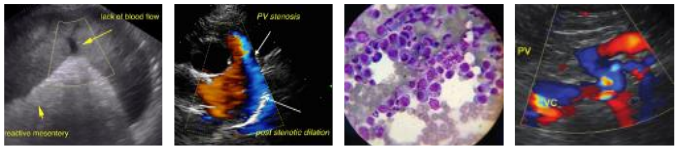

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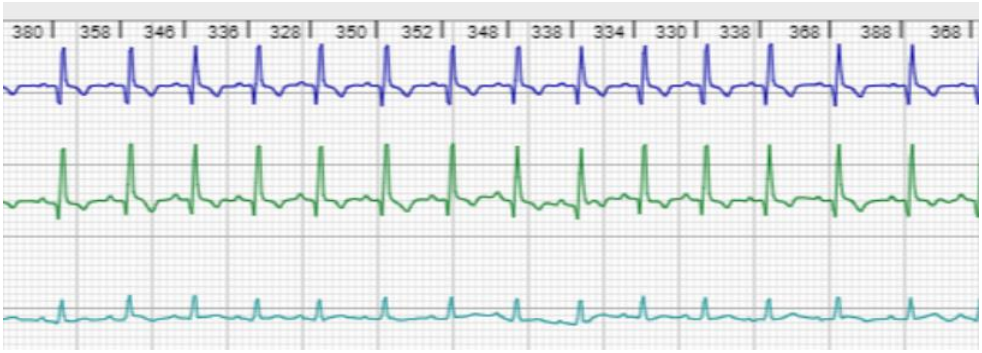

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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