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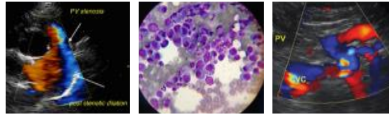

SonoPath
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PATIENT
Oliver Avrunin

SPECIES
Canine

BREED
Cavilar

SEX
Male Neutered

AGE
5.25.10

WEIGHT
26.1lbs

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

HOSPITAL NAME
PetVet of Clarksville

REFERRING VET
Dr. Martof

INVOICE
26595

DATE
9.28.22

PRESENTING CLINICAL SIGNS

History: Last 2 weeks dog has been progressively lethargic - not wanting to go on walks. Cough about 2 weeks. Eating less. History of grade 4/6 heart murmur.
-Pertinent abnormal PE/Chem/CBC/UA Results: Inc ALKP and ALT only.
-Current medications: Heartgard, Vetprofen
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results: No previous.
-STAT: Approved.
-Imaging performed by: Stephanie Warga RDCS, RVT.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental information only.

Cardiomegaly. PV distention. Concern for early CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is severely diffusely thickened with prolapse into the left atrial lumen. Lack of coaptation in systole. There is severe mitral regurgitation present. There is severe left atrial enlargement. PV are dilated as they enter the LA lumen. There is severe 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. Mild aortic insufficiency. Mild right atrial and right ventricular dilation. The tricuspid valve is thickened with moderate tricuspid regurgitation. Velocity consistent with moderate pulmonary hypertension. No pulmonic insufficiency. Scant pericardial effusion. No pleural effusion or cardiac masses are seen.

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	4.7	4.1	NM	2.2	42	73	NM
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	160	0.9	0.6	11.8	3.5	4.3	2.5

*Normal chamber parameters expressed as a mean value (SD)	Body weight	LA	LVIDd	LVIDs
BODY WEIGHT DEPENDENT PARAMETERS	3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
**Note: All measurements based upon multi-modal images and methods. An average value is reported.*	5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
	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)
Adapted from June Boon, Veterinary Echocardiography, 1998	20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435	25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Hansson et al, Vet Rad and Ultrasound 2002	30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995	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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease is present causing severe mitral and moderate tricuspid regurgitation. Severe left heart dilation indicates the risk for spontaneous decompensation is elevated. There is also moderate pulmonary hypertension, likely secondary to active congestion. Finally, a small aortic leak is noted, and a baseline blood pressure is recommended. No additional structural issues are identified.

The history, radiographs and echo findings are consistent with CHF and full cardiac support should be initiated as below. Due to the severity of disease and presence of scant pericardial effusion, hospitalization for IV Lasix and oxygen support should be offered/considered if patient appears unstable. Unfortunately, the long-term prognosis is guarded to poor given the severity of disease, with risk for recurrent spontaneous decompensation, fulminant heart failure, development of arrhythmias and/or sudden death in the future.

Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home. Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

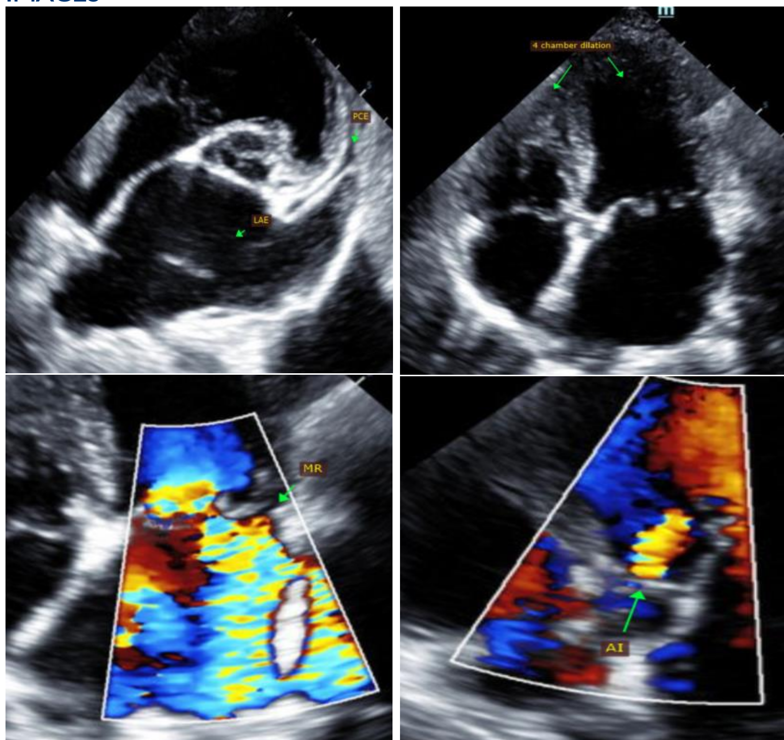
PLAN

Consider hospitalization. Institute aggressive diuretic therapy; 1-2mg/kg PO q8h for 3 days (i.e., until stable); if doing well in 3 days decrease to q12h for chronic dosage. Institute spironolactone 1-2mg/kg PO q12h. Institute Pimobendan 0.3mg/kg PO q12h. A blood pressure is recommended as discussed.

A renal panel and blood pressure are recommended in 1-2 weeks following the above medications, then every 3-4 months going forward, if >130mmHg and patient is doing well, institute ACE-I 0.5mg/kg PO q12h.

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

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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