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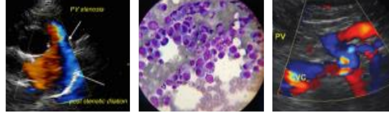

SonoPath
Clinical Sonography & Telecytology
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PATIENT
Bella Abed

SPECIES
Canine

BREED
Jack Russell Mix

SEX
Female Spayed

AGE
12.5.09

WEIGHT
18.8lbs

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

IMAGING PERFORMED BY
Stephanie Pearce, RDCS, RVT

HOSPITAL NAME
Everhart WellPet

REFERRING VET
Dr. Key

INVOICE
22804

DATE
2.24.22

PRESENTING CLINICAL SIGNS

History: Pet presented for annual wellness 1/15/22 with owner noted distended abdomen. On physical exam, pet had increased RR and a palpable fluid wave. X-rays: Showed pleural effusion and ascites. Labs: BUN 28, Crea 1.1, Glob 1.2. Started on Furosemide, Benazepril and Pimobendan after owner opt to not go to ER. Pet improved. 1/31 u/s- no free fluid in chest or abdomen.
-Pertinent abnormal PE/Chem/CBC/UA Results: BUN 37, Crea 1.3, AST 82.
-Current medications: Since 1/15- Pimobendan 2.5 BID, Benazepril 5mg BID, Furosemide 20mg TID. Gabapentin 100-200mg in AM.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results: No previous.
-STAT: Not requested

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with significant prolapse into the left atrial lumen. There is marked mitral regurgitation present. The MR velocity is normal. Severe left atrial enlargement. There is mild 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 dilated. Moderate right atrial and ventricular dilation. The tricuspid valve is thickened with septal prolapse and moderate tricuspid regurgitation. Velocity consistent with severe pulmonary hypertension. Mild pulmonic insufficiency and no aortic insufficiency. No pericardial or pleural

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	5.8	4.5	NM	2.5	57	88	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	176	1.4	0.5	8.5	3.7	4.2	1.8
*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)
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 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 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.

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.

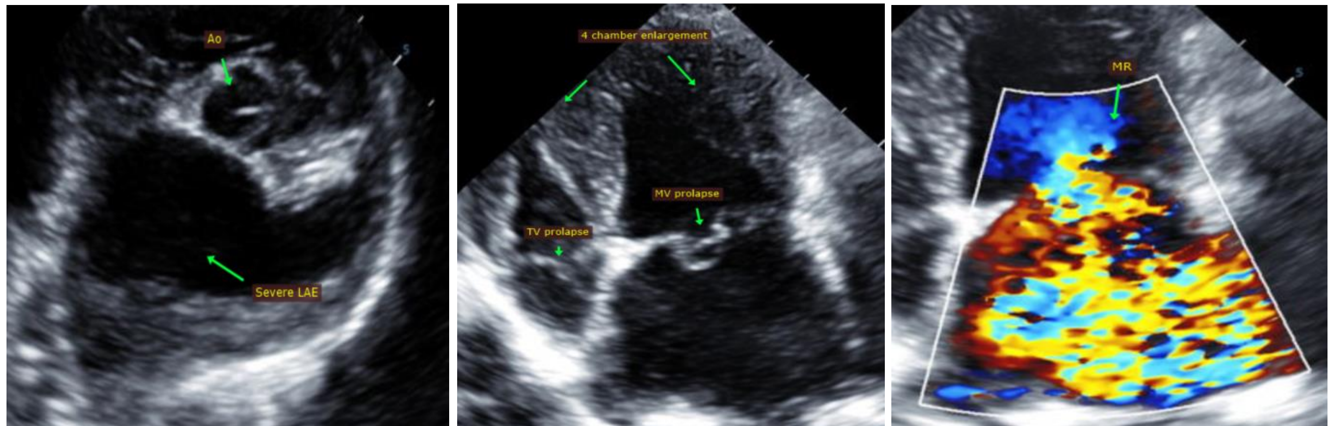
PLAN

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



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
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