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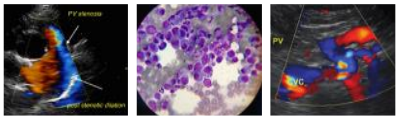

SonoPath
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PATIENT
Cinnamon McDuffie

SPECIES
Canine

BREED
Chihuahua

SEX
Male Intact

AGE
12.12.06

WEIGHT
7.3lbs

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

HOSPITAL NAME
Northwind Animal Hospital

REFERRING VET
Dr. Jones

INVOICE
25282

DATE
7.13.22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Concern for syncope. History of seizures.
-Pertinent abnormal lab results: Largely NSF. BUN/Creat: normal. No anemia.
-Radiographs: Cardiomegaly, bronchointerstitial pattern
-Current medications: Furosemide 3mg, 1 cap BID, Keppra 100mg/ml - 0.7ml q8h, Vetmedin 1.25mg 1/2-tab BID. Tussigon 5mg - 1/4-tab q8h.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results (4/2021 MML): Moderate MR, mild LAE, no LVE, mild TR: 2.0m/s, LA: 1.3, LV: 2.2.
-STAT: Requested/Approved.
-Imaging performed by: Stephanie Pearce RDCS, RVT.

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

Mild cardiomegaly. No obvious evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with mild left atrial dilation. Normal MR velocity. Decreased LV diameter with adequate myocardial function. Increased wall thickness globally (0.9-1.0cm). The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Velocity consistent with moderate pulmonary hypertension. Mild right heart enlargement. Mild MPA and branch dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	5.4	4.2	NM	1.5	58	90	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	146	1.0	0.93	3.3	1.4	1.3	0.6
*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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with some significant differences. Mild mitral regurgitation is largely unchanged with no progression in left heart dimensions. To the contrary, the LV appears decreased in size with increased wall thickness. This is most commonly seen as pseudohypertrophy secondary to volume depletion. What is difficult to interpret is the lab work reports normal renal values and no evidence of anemia. This may suggest an ancillary pathology, such as systemic hypertension or a primary myocardial issue. Regardless, what is seen is relatively mild without left atrial dilation. Additionally, the TR velocity has increased and reflects moderate pulmonary hypertension. While the right heart is only mildly affected, the MPA does appear dilated, making this likely a relatively acute onset. Consider possibilities such as a PTE as an underlying issue; however, this is difficult to prove or disprove. No additional issues are identified at this time.

These findings may explain syncope, particularly if the episodes are exertional in nature. Recommend Sildenafil to assess response and screen for improvement in the episodes. If no improvement is noted, this medication is likely unnecessary with further systemic evaluation advised. With these findings, Lasix is certainly not indicated at this time and can be safely discontinued. Given the unusual nature of the case, it is reasonable to continue Pimobendan, at least for the short-term.

Prognosis is guarded going forward, until further evaluation is assessed.

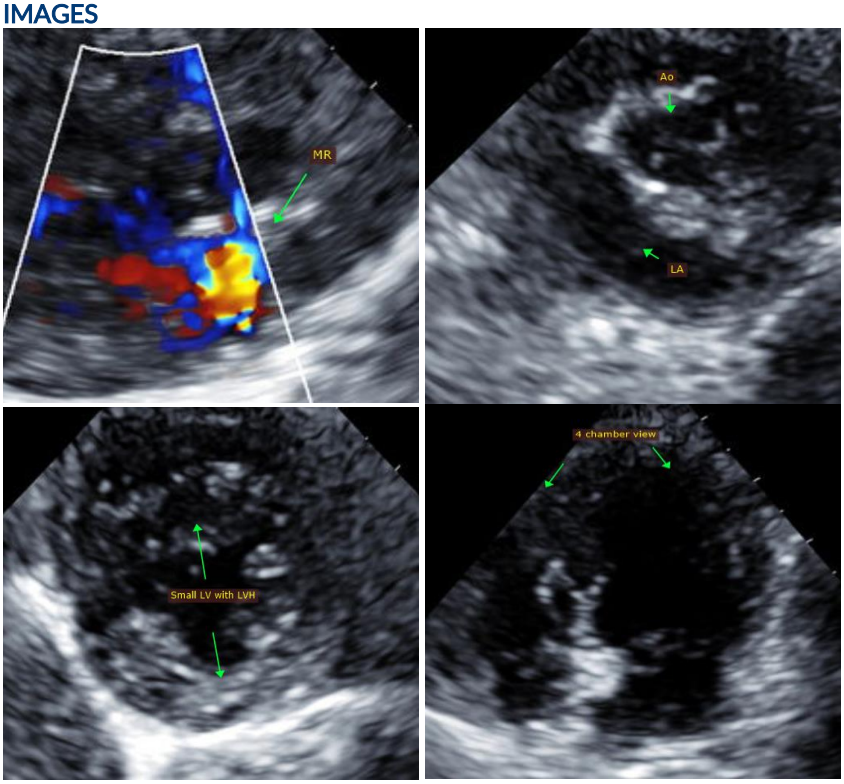
Elective anesthesia is not advised prior to further evaluation.

PLAN

Discontinue Lasix as discussed. Reassess renal values and USG in 1-2 weeks to reestablish a baseline independent of diuretic. Continue Pimobendan 0.3mg/kg PO q12h. If the episodes are exertional in nature, a Sildenafil trial is warranted: administer 1-2mg/kg PO q8h and assess for improvement. A baseline BP is recommended

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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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