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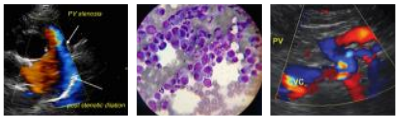

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PATIENT
Charlie Levett

SPECIES
Canine

BREED
Shepherd Mix

SEX
Male Neutered

AGE
1.4.10

WEIGHT
78.2lbs

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

HOSPITAL NAME
Chadwell Animal Hospital

REFERRING VET
Dr. Gold

INVOICE
26895

DATE
10.14.22

PRESENTING CLINICAL SIGNS

History: Recheck echo. History of pericardial effusion (scant, unknown origin). Now ascites and pleural effusion have developed.
-Pertinent abnormal PE/Chem/CBC/UA Results: ALP still up (was 1045, now 594).
-Radiographs: Generalized cardiomegaly, ascites.
-Current medications: Pred 10mg EOD, Immuquin, Dasuquin.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results (7/8/2022 MML): NSF with scant pericardial effusion. No tumors appreciated on serial exams (initial 2/2022)
-STAT: Requested by DVM
-Imaging performed by: Andi Parkinson, RDMS

ECHOCARDIOGRAM FINDINGS *limited images included.

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. No left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. Concern for early cardiac tamponade based on the appearance of the right atrial wall. No obvious tumors associated with the right atrium, AV groove or auricle. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic outflow velocities with laminar flow. Small volume pericardial effusion. Large volume echogenic pleural effusion noted. Ascites seen on subcostal views. 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	NM	NA	NM	1.3	30	57	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	194	1.0	NM	35.5	2.5	3.6	2.5
*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 *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)
				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

Compared to the prior study, the cardiac structure and function are unchanged and persistently normal. No obvious cardiac or extra-cardiac tumors are appreciated; however, these are easily missed on 2D ultrasound. Of greatest clinical concern, there is slight progression in quantity of pericardial effusion comparatively, with concern for developing early tamponade. Whether this is resulting in pleural or abdominal effusion or simply reflect tricavitary effusion of a sole origin is difficult to decipher in this case. The latter is considered more likely, given only early tamponade suspected and overall small volume of pericardial effusion.

Serial exams have not shown a cause for effusion and the condition does seem to be worsening. While sampling the pericardial effusion would be ideal and ultimately may become necessary, the volume is not significant and this does carry high risk. Highly recommend immediate advanced evaluation, including pleural/abdominal fluid sampling and submission for cytology, thoracic CT scan, full systemic evaluation (including abdominal ultrasound), etc. Immediate referral to a Multi-Specialty Center is recommended, given the chronicity of the case and reported clinical compromise. If the quantity of pericardial effusion increases or the patient's clinical status continues to worsen, a therapeutic pericardiocentesis may become necessary despite risk. Again, referral would be ideal due to the sensitive nature of the procedure. If these options are declined and patients' quality of life suffers, euthanasia should be elected, given the totality of the findings.

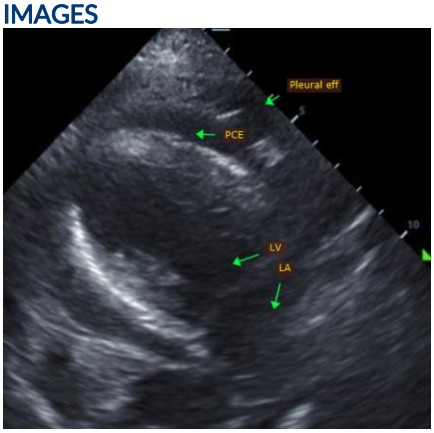
Prior to further evaluation , no cardiac medications are recommended.

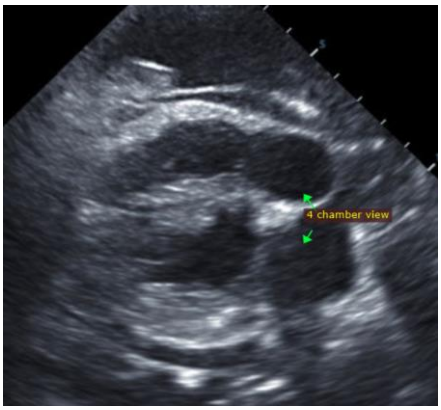
Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

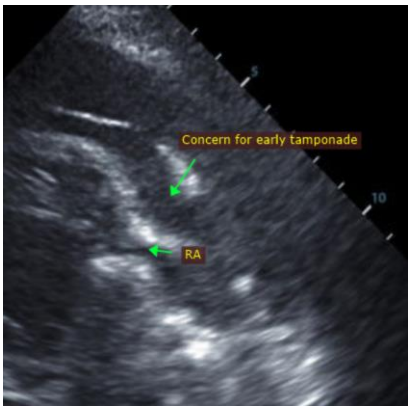
PLAN

Immediate referral is recommended as discussed with advanced evaluation as suggested. Follow up is dictated by results of additional diagnostics.

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)
info@sonopath.com