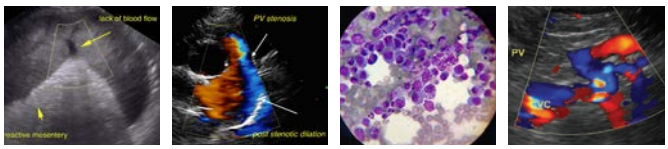
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Cougar Fox

SPECIES
Canine

BREED
Weimaraner

SEX
Neutered Male

AGE
12 Years

WEIGHT
48 kg

INTERPRETED BY
Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Dr. Callihan

HOSPITAL NAME
Animal Emergency Care

REFERRING VET
Dr. Drummond

INVOICE
33905

DATE
1/1/22

PRESENTING CLINICAL SIGNS

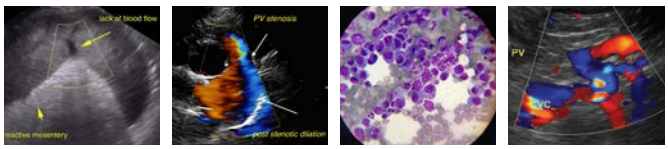
Presented on ER this morning for dyspnea, cough. S: Patient presents for: coughing, difficulty breathing. Has been coughing up lots of clear liquid/foamy liquid. This morning, the fluid had brown flecks in it. History of: Diagnosed with an enlarged heart and mitral valve regurgitation? (based on description from owner) approximately 1.5 years ago. Was started on Enalapril 20 mg BID, Pimobendan 10 mg BID and Furosemide 40 mg BID. Owner initially gave furosemide then was told if pt doing well could wean off, didn't give for almost a year, but has started to give it again in the past month. Radiographs and blood work done at rDVM in the past 4-6 weeks reported normal. Medications: Enalapril 20 mg BID, Pimobendan 10 mg BID, Furosemide 40 mg BID. Pimobendan and Enalapril last given at 6:10 am, and Furosemide was given at 5:40 am.
Abnormal PE/Chem/CBC/UA Results: BAR, ambulatory, Tachycardia, coughing; crackles not obvious on auscultation; 3/6 apical murmur loudest on right side; BCS 6/9, 3 view thoracic radiographs with mild generalized cardiomegaly and left atrial enlargement; mild unstructured pulmonary interstitial pattern cranioventral

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	5.0		1.71	2.54	27	51	0.3
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				
PATIENT		2.0	1.3		7.15	6.97	

Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative



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disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

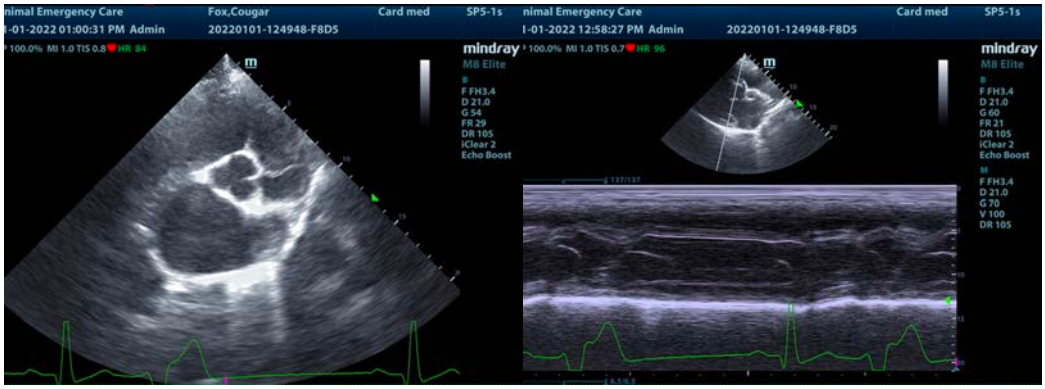
ULTRASONOGRAPHIC FINDINGS

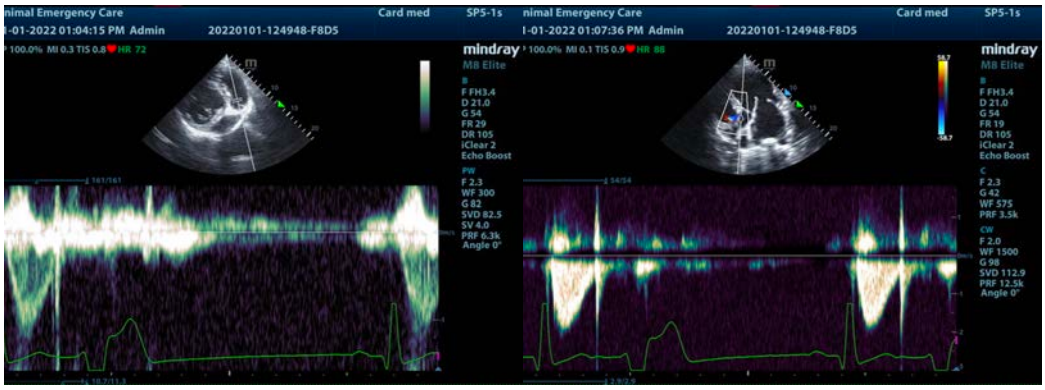
- Chronic valvular disease with volume overload and myocardial insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Grain-free diet should be evaluated in this patient, as fractional shortening is somewhat subnormal to be adequately compensatory for this disease. EKG indicated to assess for concurrent arrhythmia. Blood pressure measurements warranted. In addition to the triple therapy in this patient, recommend continuing Lasix at 2-3 mg/kg BID, adding Spironolactone at 1-2 mg/kg BID. Pimobendan can be increased to TID dosing at 0.3 mg/kg. Lasix could also be increased if necessary to reach target respiratory rate of <20/min. Taurine levels would be appropriate.

C1: The heart is in a somewhat precarious state with volume overload and a heart that is working to compensate for the valvular insufficiency. Target respiratory rate is < 20 resp/minute after therapy. After initiating therapy, I recommend recheck on the clinical exam, BUN, Creatinine, USG, Chest radiographs & Blood pressure in 5-7 days. Recheck echo in 1 month. Earlier if clinical decompensation is occurring. I do not recommend anesthesia at this time until stabilization has occurred on the recommended medications. Repeat preanesthetic echo is ideal if anesthesia is eventually necessary.





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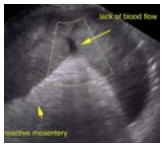
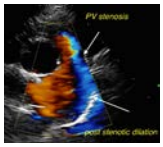
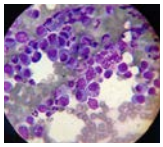
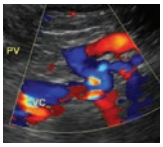

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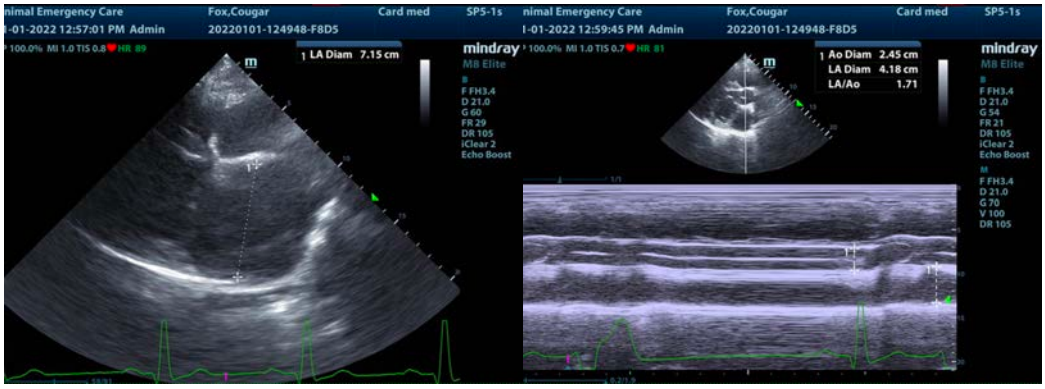

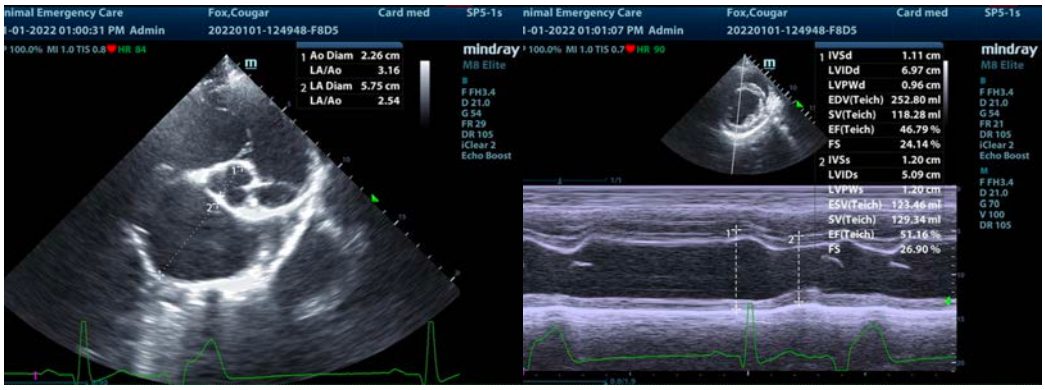

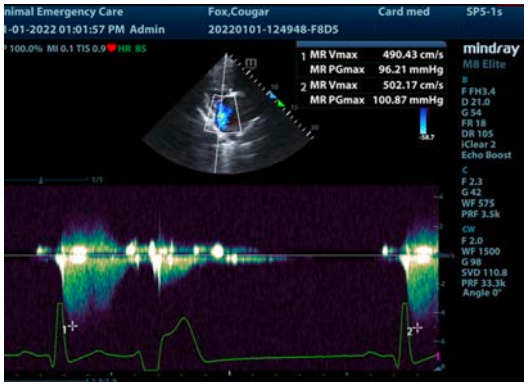

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com