



PATIENT PRESENTING CLINICAL SIGNS

PATIENT
Bandit Kilburn
Presented for a chronic cough that started over the winter. Owner reports coughing 30x per day/overnight. Nonproductive cough. Some exercise intolerance noted. Sedated with Torbugesic, muzzled.

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: ProBNP 2,752, Hct 59%, Anaplasma + (new). RADS: (Lateral) Enlarged heart. No obvious pulmonary hypertension noted. Alveolar pattern. (DV) Left auricular bulge at the 3 o'clock position, a double-density sphere between the left and right caudal mainstem bronchi causing splaying of the bronchi. Compression of the left mainstem bronchus.

BREED

Terrier X

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

SEX

Neutered Male

AGE

10 Years

WEIGHT

24 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Ebersole

HOSPITAL NAME

Scanvet

REFERRING VET

Dr. Kaltsas

INVOICE

39981

DATE

8/1/22

| 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 | | 1.6 | 2.19 | 32 | 60 | 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 | 0.6 | | 5.04 | 4.61 | |

Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements Complete filling of the left atrium noted on color flow assessment. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. Prolapse of the anterior mitral valve leaflet noted. 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. Mild **pulmonic** insufficiency noted. Hepatic veins were not dilated. No evidence of right-sided failure. Trace pericardial effusion noted. No evidence of masses. No evidence of tamponade.

ULTRASONOGRAPHIC FINDINGS

- Advanced Stage B2-C1 valvular disease with trace pericardial effusion



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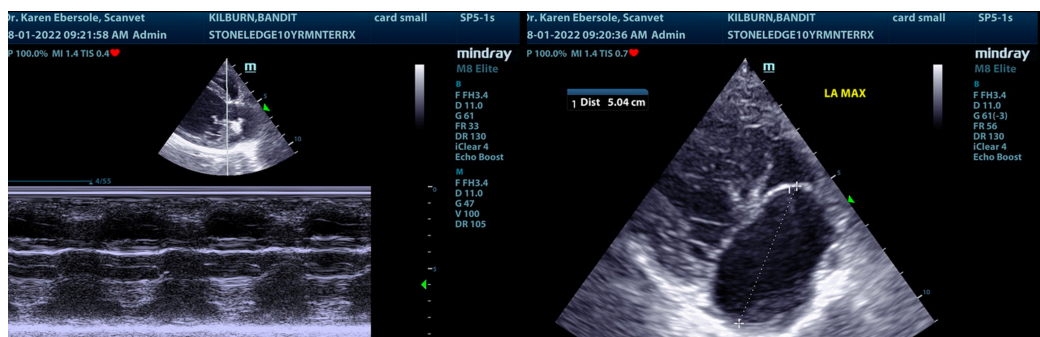
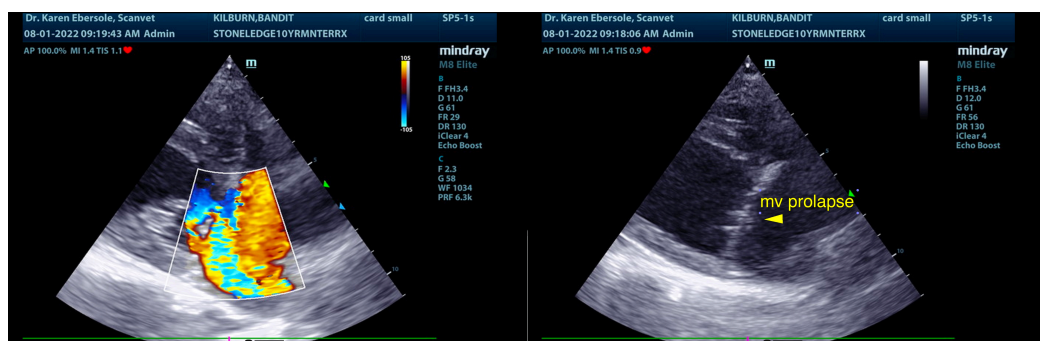
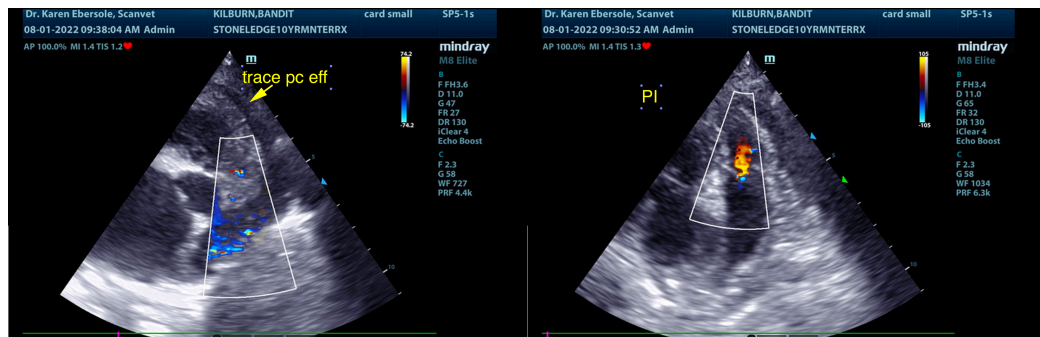
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Left-sided heart failure suspected. I cannot rule out a small left atrial tear, given the pericardial effusion. Recommend quadrotherapy in this patient – Pimobendan 0.3 mg/kg BID, Lasix 2 mg/kg BID, ACE inhibitor 0.5 mg/kg SID progressing to BID, and Spironolactone at 1-2 mg/kg BID. Recheck echo in 10 days, earlier if clinical signs worse. There may be a bronchial component as well to this patient. However, given the size of the left atrium and the clinical history as well as radiographic findings, early C1 valvular disease is likely. Cough suppressant such as hycodan would also be recommended. Therapeutic targets include diminishing cough, sleeping respiratory rate of <25/min, and lowering heart rate, as well as diminishing volume overload.

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. There is severe anesthetic risk for this patient. Light dose opioids may be used to calm but I do not recommend anesthesia.





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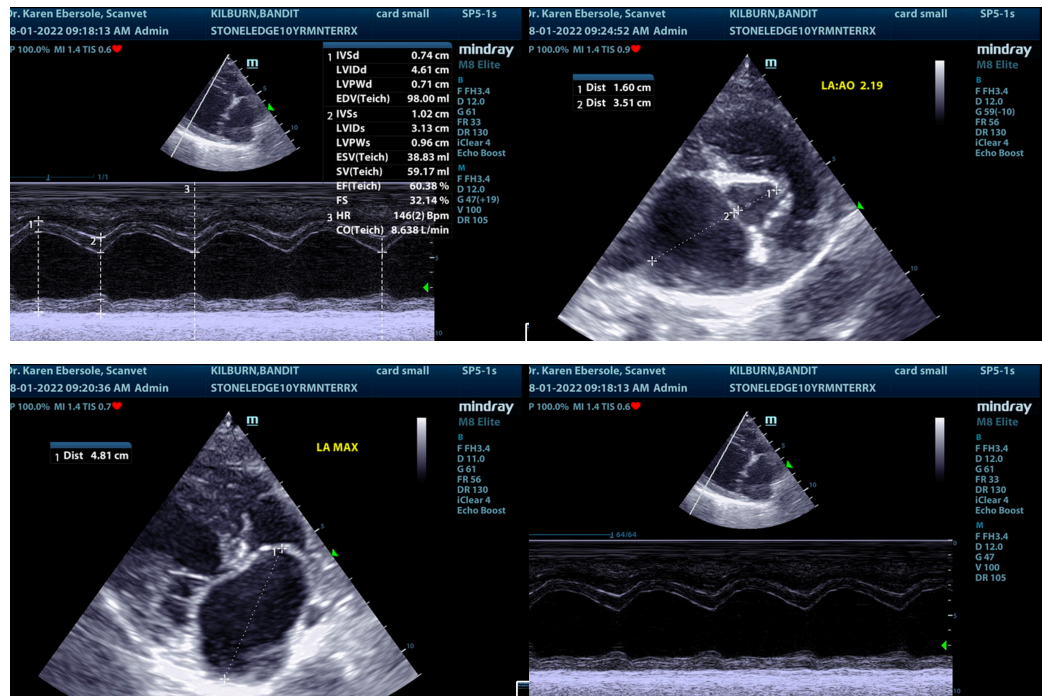
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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