



## PATIENT PRESENTING CLINICAL SIGNS

**Betsy Schmitt** History: Patient with history of cardiac disease presents for dyspnea. In O2 therapy cage, current meds: Vetmedin 1.25 mgs 1 1/2 BID, Sildenafil 20 mgs x 1/2 BID, and Lasix 12.5 mgs BID.

## SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Canine

**BREED**

Peekapoo

**SEX**

Spayed Female

**AGE**

15 Years

**WEIGHT**

13.2 Pounds

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>	--	<b>5.5</b>	NM	1.23	41.2	75.4	0.1
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)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
<b>PATIENT</b>	109	1.2	0.7	--	1.8	1.7	--

## INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

## IMAGING PERFORMED BY

Kelly Vazquez

## HOSPITAL NAME

Westwood Regional VH

## REFERRING VET

Dr. Cattiny

## INVOICE

14553

## DATE

3/29/22

### Cardiac Presentation

The echocardiogram in this patient demonstrated normal to mildly subnormal **left atrial** size based on 2 different measurements, potentially secondary to diuretic therapy. Chamber volumes and echogenicity were essentially normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated probable mild eccentric insufficiency. The **left ventricle** presented mild increased thicknesses with maintained linear contour and was not dilated nor restricted. Suspect mild LV pseudohypertrophy, owing to diuretic therapy, assuming no evidence of hypertension. 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 mild increased size with normal overall structure and content and without overt evidence of masses. **Tricuspid** valvular assessment demonstrated thickening with valvular prolapse and moderate turbulent TV insufficiency. The **right ventricle** revealed mild increased size, compared to the LV with subjective mild eccentric hypertrophy and normal myocardial echogenicity. **Pulmonic** tract assessment revealed normal valve structure, laminar systolic flow with increased diameter compared to the aorta. No visible **pericardial** or free pleura fluid was noted. No overt evidence of infiltrative disease was visible as well as no overt evidence of **mediastinal or pericardial region** neoplastic criteria.

Transdiaphragmatic view revealed comet tail lung pattern, which is echogenic sound wave interface with microconsolidations within the caudal lung field. The lung field should not be visualized by



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sonogram unless pathology is present. Chest radiographs are recommended to rule out alveolar/lung disease such as neoplasia, thromboembolic disease, chronic inflammatory disease with microconsolidation. Subtle evidence of compensated hepatic congestion was present.

## ULTRASONOGRAPHIC FINDINGS

- Severe pulmonary hypertension- estimated pulmonary pressure gradient approximately 100 mm Hg
- Mild RA/RV enlargement
- Probable compensated concurrent mitral valve disease with normal left atrium and suspect pseudohypertrophied LV
- Transdiaphragmatic comet tail artifact and minor evidence of compensated hepatic congestion

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary finding in this case is severe pulmonary hypertension with concurrent to secondary mild RA/RV/PA enlargement. In the absence of documented heartworm disease, the etiology of pulmonary hypertension is often not obvious, yet in this case, chronic lower-airway disease may be a consideration. Going forward, this patient is at severely elevated risk for sudden death.

Exercise restriction is advised. Hospitalization with stabilization, including as needed oxygen therapy and respiratory support recommended. Medically, increasing Sildenafil dose to 20 mg/kg PO BID (an approximate 3 mg/kg dose) with continued Vetmedin would be reasonable. Correlation with three-view chest radiographs recommended, if not done. No overt indication for Lasix therapy at this time, unless evidence of obvious pulmonary edema. Very guarded prognosis going forward. Recheck echocardiogram suggested in 2-3 weeks or sooner if continued to progressive clinical signs consistent with severe pulmonary hypertension are noted.





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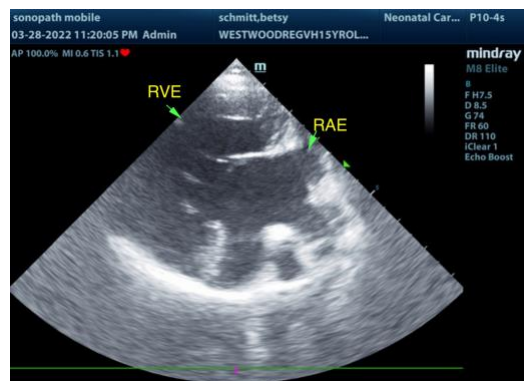
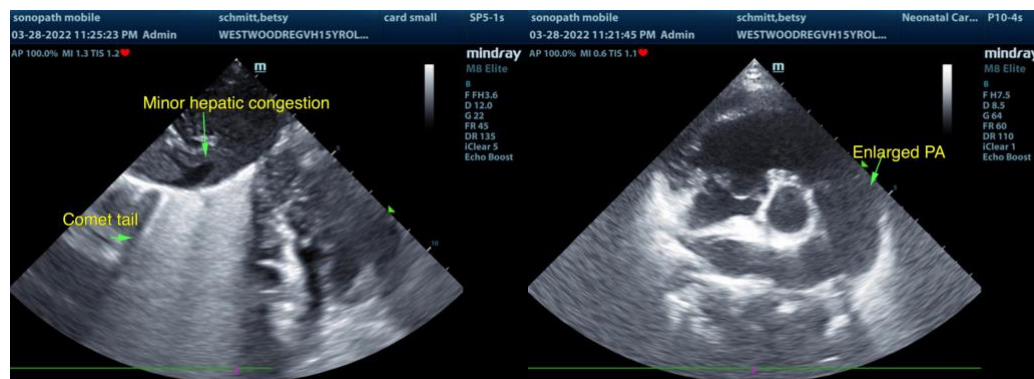
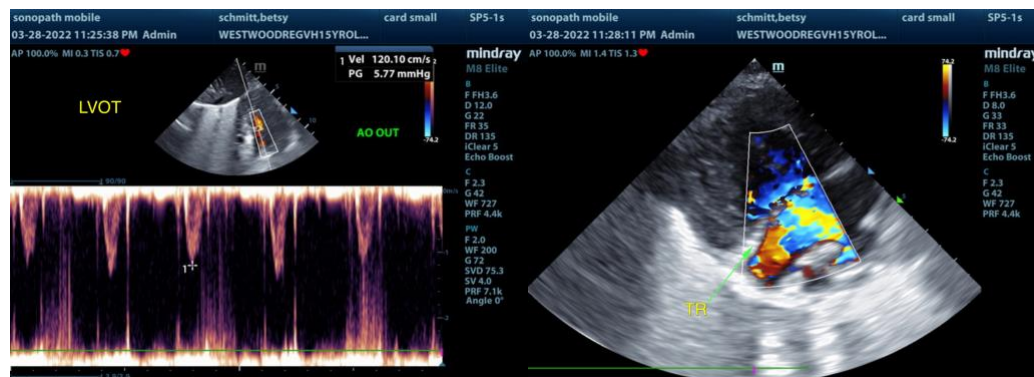
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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