



PATIENT

Louis Kleinschmidt

PRESENTING CLINICAL SIGNS

Dyspnea, progressing heart murmur (now grade 4/6), pulmonary edema. Current meds: aminophylline, hydrocodone, started furosemide on 4/28/22.

SPECIES

Canine

BREED

Pomeranian

SEX

Neutered male

AGE

15 years

WEIGHT

7.6 lbs

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, without significant **tricuspid** regurgitation, and normal **right atrial** size. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** was uniformly prominent with mildly depressed pulmonic velocity measured on PW Doppler. No overt heartworms were noted in the main or visible deep pulmonary arteries. Yet, theoretically heartworms could be present in the deep pulmonary vasculature out of visible sonographic range. More likely, however, this prominent right heart is due to excessive intra-thoracic pressures caused by chronic respiratory disease or potentially excessive intra-thoracic fat (Pickwickian syndrome). The **left heart** demonstrated a linear **ventricular septum**. Contractility was functionally adequate demonstrated by the FS% measurement. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. Prolapse of the anterior mitral valve leaflet was noted. The **left atrium** presented mild enlargement with moderate to complete filling noted on color flow assessment. The **left ventricular outflow** demonstrated normal flow patterns and velocities through the aortic valve. No evidence of tumor, pericardial or pleural effusion was noted. The visible **extra-cardiac** tissues were uniformly linear without evidence of masses, infiltrative or inflammatory mediastinal tissue. No evident arrhythmic activity was noted during the exam. Heartbase fat was noted in the area of the right auricle with no evidence of masses or

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez, CVT

HOSPITAL NAME

Westwood Regional
VH

REFERRING VET

Dr. Giammanco

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	<1.3	28-40	40-100	<0.6
PATIENT	6.0		NM	1.6	38	70	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	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	106	1.12	0.83	7.6 lbs	2.96 max	2.45	

INVOICE

30038

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ULTRASONOGRAPHIC FINDINGS

Cor pulmonale and mitral insufficiency.

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Minor left atrial enlargement.

BREED

Pomeranian

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient is not in left-sided heart failure. Blood pressure measurements are recommended. If the systolic pressure is > 160 then ace inhibitor therapy is indicated. If pulmonary edema is present on the radiographs this is not purely cardiogenic other causes such as non-cardiogenic pulmonary edema should be considered/pneumonitis. Pulmonary thromboembolic disease, SARDS and continuation of current respiratory protocol is warranted with the addition of Pimobendan at 0.3 mg/kg b.i.d. is indicated. A recheck echocardiogram is recommended in a month. Even with the Lasix therapy the left atrial size is not large enough to cause left-sided heart failure or be directly involved in pure left-sided heart failure.

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Neutered male

AGE

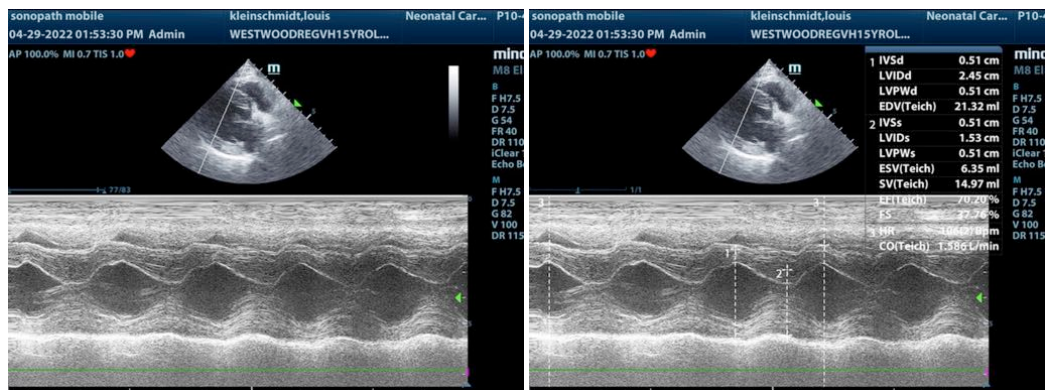
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WEIGHT

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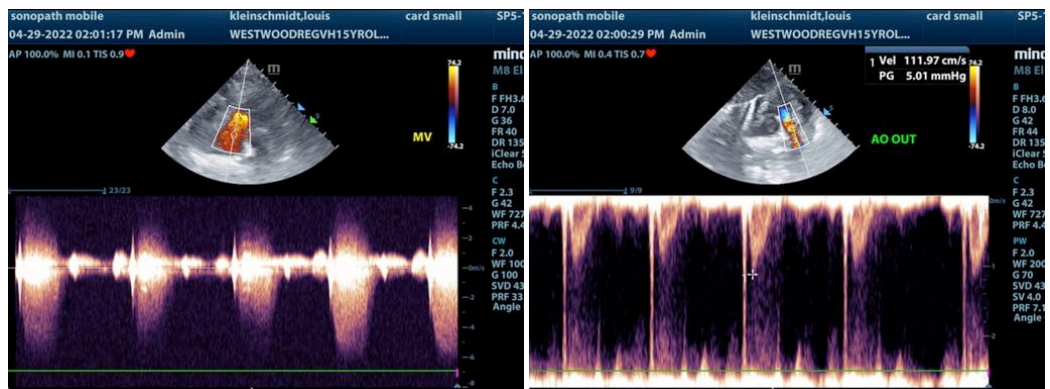
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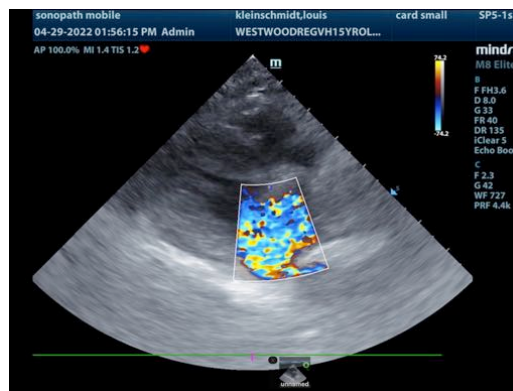
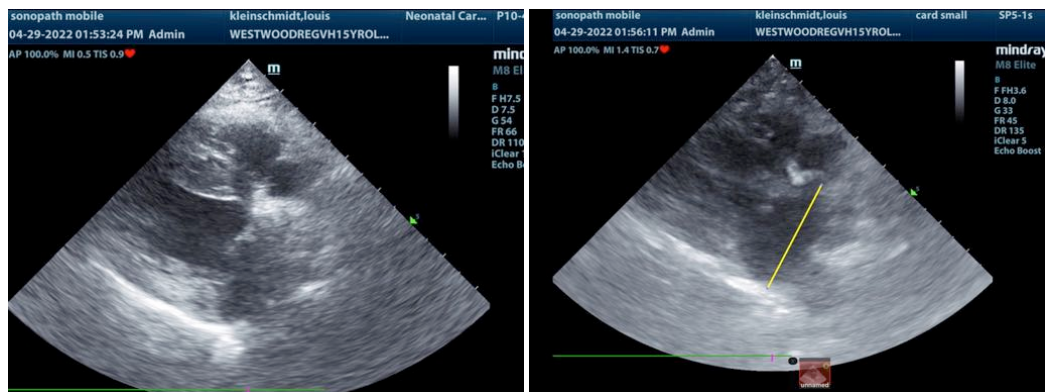
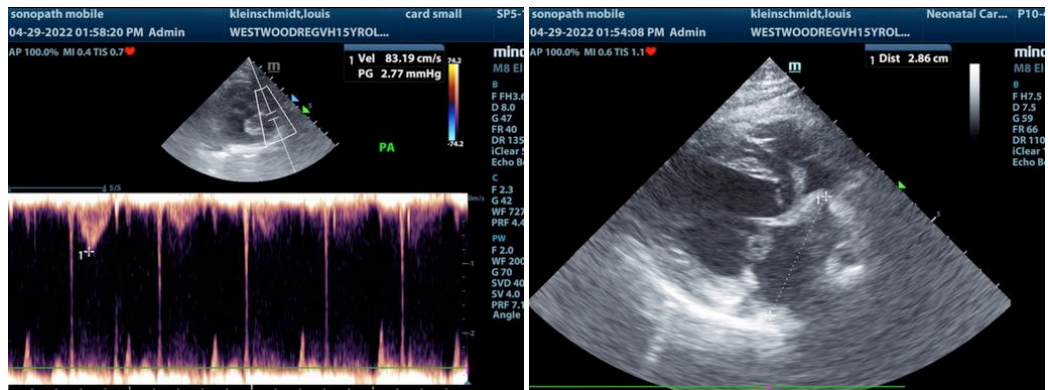
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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