



## PATIENT PRESENTING CLINICAL SIGNS

**PATIENT** Apple Gail

**SPECIES** Canine

**BREED** Dachshund

**SEX** Spayed Female

**AGE** 15 Years

**WEIGHT** 3.79 kg

**INTERPRETED BY** Eric Lindquist, DMV, DABVP, Cert. IVUSS

**IMAGING PERFORMED BY** Jenna Walsh, CVT

**HOSPITAL NAME** Wilvet Salem

**REFERRING VET** Dr. K Peterson

**DATE** 12/30/21

**INVOICE** 33847

Patient started coughing for the last couple nights. rDVm said it could be a heart issues. She also has hypertension, diagnosed a couple years ago. ::ASSESSMENT:: Cough Heart murmur probable IVDD Rx Furosemide 12.5 mg - 1/2 T PO BID #30 Rx Pimobendan 1.25 mg - 1/2 T PO BID #30 Rx Amlodipine 2.5 mg - 1/4 T PO SID #15 RXL Enalapril 2.5 mg - 1/2 T PO BID #30 Refills x 1 yr  
Abnormal PE/Chem/CBC/UA Results: CBC - Hemoconcentration HCT 62.3%, elevated PLT 488k rest wnl Chem17 - BG low normal 75, Elevated ALT 274, rest wnl EPOC - Hemoconcentration HCT 56%, hypocalcemia iCa 0.96, rest wnl Radiographs- CONCLUSIONS: The pulmonary changes seen on the study in light of the mild cardiovascular changes are suggestive of mild/emerging pulmonary edema from left-sided heart failure. Edema due to pulmonary hypertension, or thromboembolic disease could be present as well. Concurrent chronic bronchial disease may be present given the bronchointerstitial infiltrates of the pulmonary parenchyma which may be exacerbating clinical symptoms. The abdomen is relatively unremarkable on this exam. Chronic intervertebral disc disease of the lumbar spine is likely present. RECOMMENDATIONS: Echocardiogram is recommended to more accurately assess cardiac function and to assess for any evidence of pulmonary hypertension that could be contributing to the changes seen on this study. Lasix therapy may be instituted to assess for any evidence of improvement of the patient's clinical symptoms.

## 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	3.46	1.12		41	76	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)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	158	1.10	0.90		1.8	1.44	

### Cardiac Presentation

Left atrial size appears to be normal to subnormal. The cranial and caudal mitral valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. The left ventricle presented normal contractility with subnormal volume. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. 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 insufficiency noted at 3.46 m/sec. Tricuspid insufficiency velocity is consistent with mild pulmonary hypertension, not likely a clinical issue. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonic



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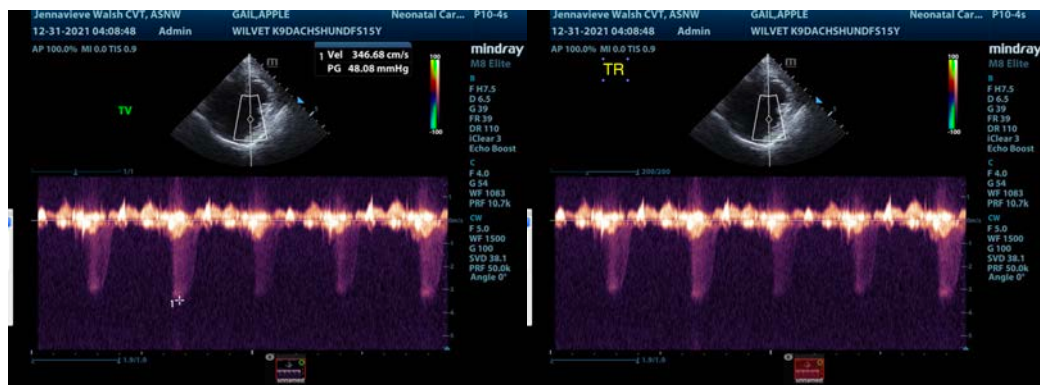
tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum** and **pericardial** regions were free of masses in the visible window. Comet tail lung pattern noted through the diaphragm, indicative of alveolar disease.

**ULTRASONOGRAPHIC FINDINGS**

- Mitral and tricuspid insufficiency
- Mild pulmonary hypertension

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

If the cough is currently present, it is not cardiogenic in origin. Blood pressure measurements recommended to ensure concurrent hypotension is not an issue. Lasix therapy can likely be diminished in this patient, as left ventricular internal diameter is mildly subnormal. Assessment for primary respiratory disease recommended. Alveolar disease is not cardiogenic at this time, given that the left heart is unremarkable.





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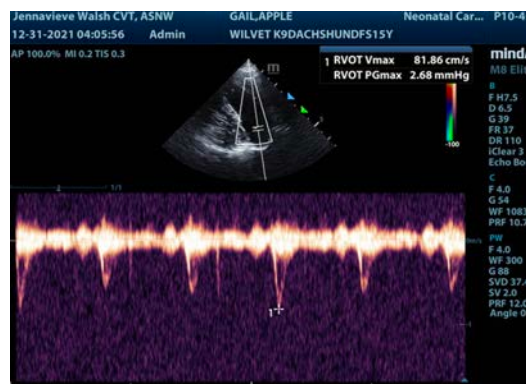
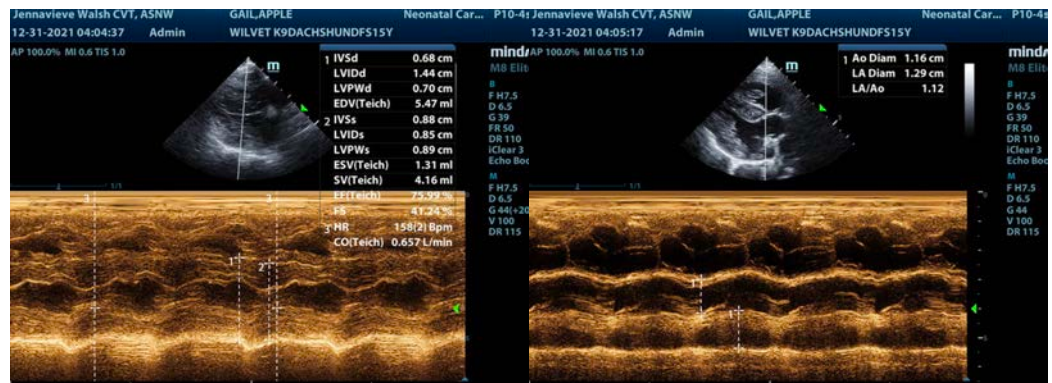
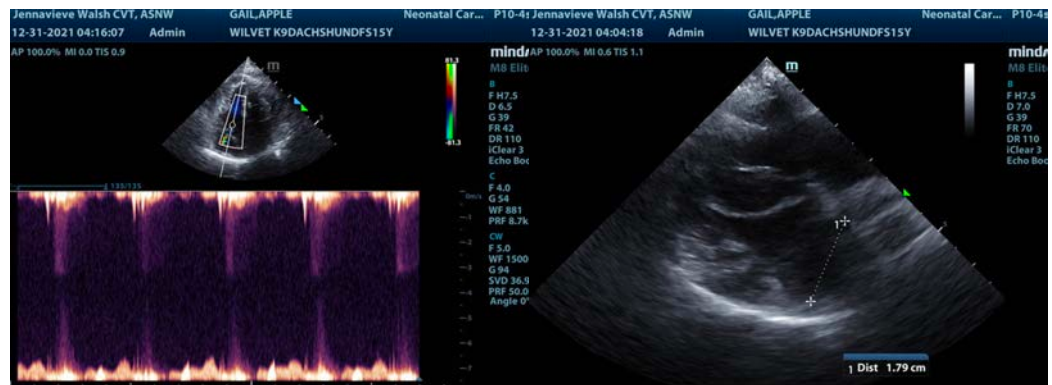
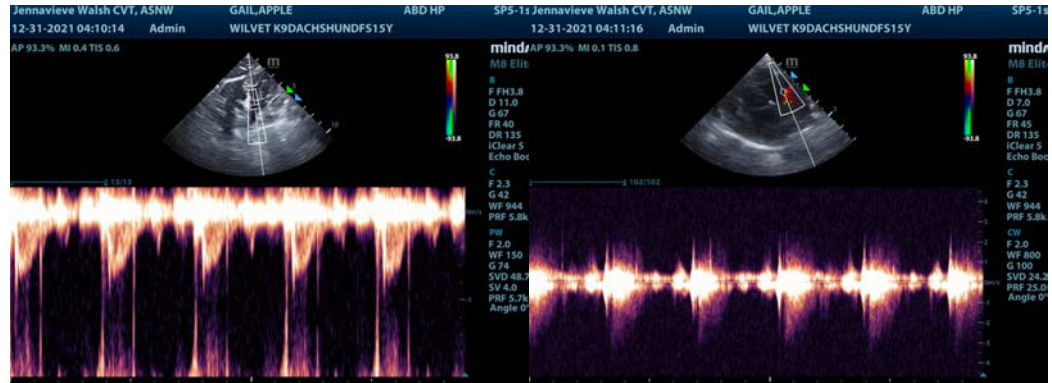
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**SPECIES**

Canine

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.

**BREED**

Dachshund

**Eric Lindquist, DMV, DABVP, Cert. IVUSS**

CEO of Sonopath.com

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Eric.Lindquist@SonoPath.com

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