

## PATIENT PRESENTING CLINICAL SIGNS

**Lillie Perrigo**  
Presents for cough, progressively increasing in frequency over the past several months. History of tracheal collapse. New heart murmur ausculted last week (grade 2-3 left systolic murmur) Current Medications Hydrocodone with homatropine oral suspension, Cough Tabs, Apoquel Radiographic Findings Cardiomegaly with interstitial lung pattern

**Canine**  
Radiographs: Generalized left and right-sided cardiomegaly with mainstem bronchus impingement from the left atrium.

## BREED ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Pomeranian

### SEX

Spayed Female

### AGE

12 Years

### WEIGHT

7.5 Pounds

### INTERPRETED BY

Eric Lindquist, DMV,  
DABVP, Cert. IVUSS

### IMAGING PERFORMED BY

Jenna Walsh

### HOSPITAL NAME

Q Street AH

### REFERRING VET

Dr. Cone

### DATE

9/12/21

### INVOICE

25347

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	6.0	3.0	1.6	1.8	52	85	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				
PATIENT	129	1.3	0.9		2.6	2.25	

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



**PATIENT**      **ULTRASONOGRAPHIC FINDINGS**

Lillie Perrigo

- Left atrial enlargement and mitral insufficiency with mitral valve prolapse, Stage B2 valvular disease

**SPECIES**      **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Canine

There may be both a cardiogenic and respiratory component to the cough in this patient. However, I do recommend treating the cardiac component with Pimobendan 0.3 mg/kg BID, low dose Lasix at 1.2 mg/kg BID. Blood pressure measurements warranted. If systolic pressure is >160, ACE inhibitor therapy would be indicated. The left atrial enlargement is mild and best reflected in the LA Max position and in the lateral radiograph view, hence there may be a cardiac component involved, which may necessitate a bronchodilator such as Albuterol +/- broad-spectrum respiratory antibiotic. Recheck echo in 1-3 months depending upon clinical signs.

**BREED**

Pomeranian

**SEX**

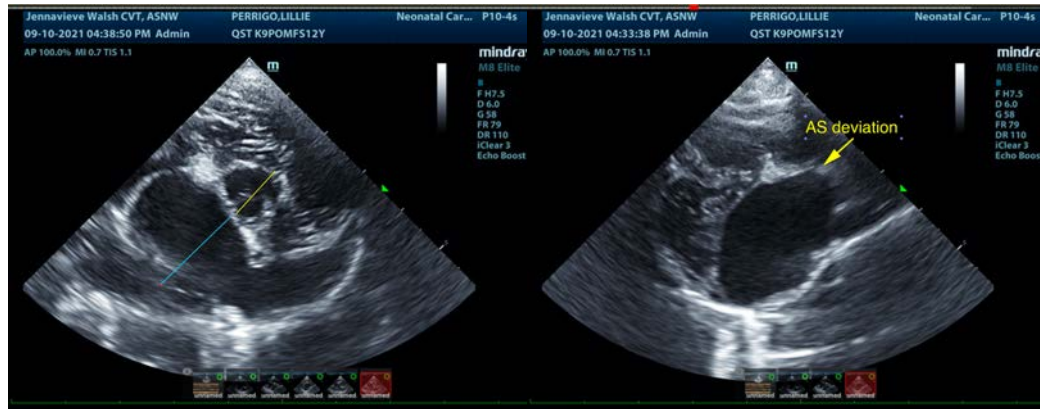
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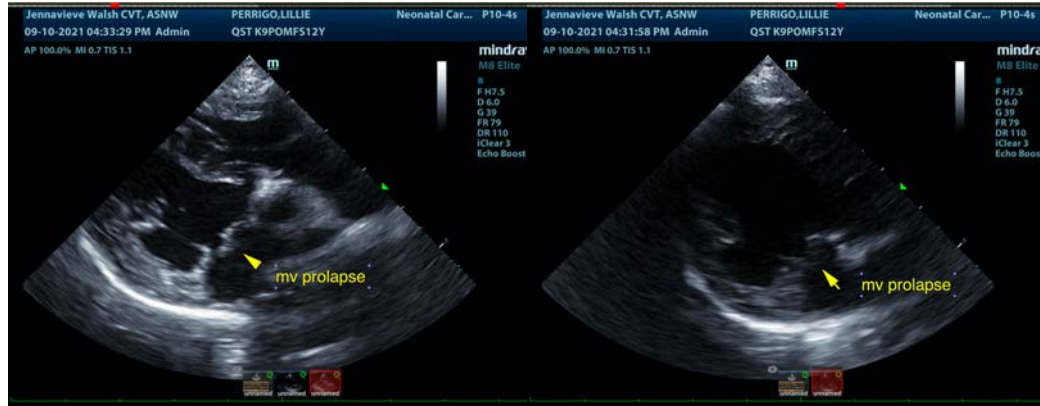
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**PATIENT**

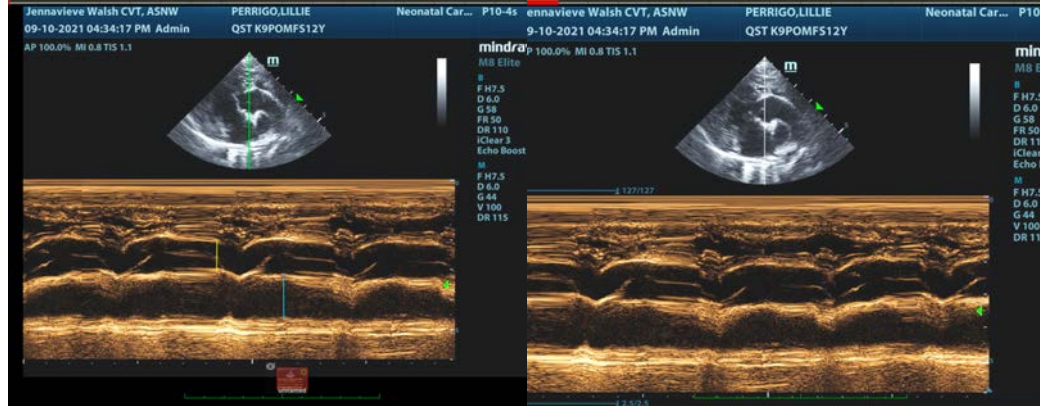
Lillie Perrigo

**SPECIES**

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**BREED**

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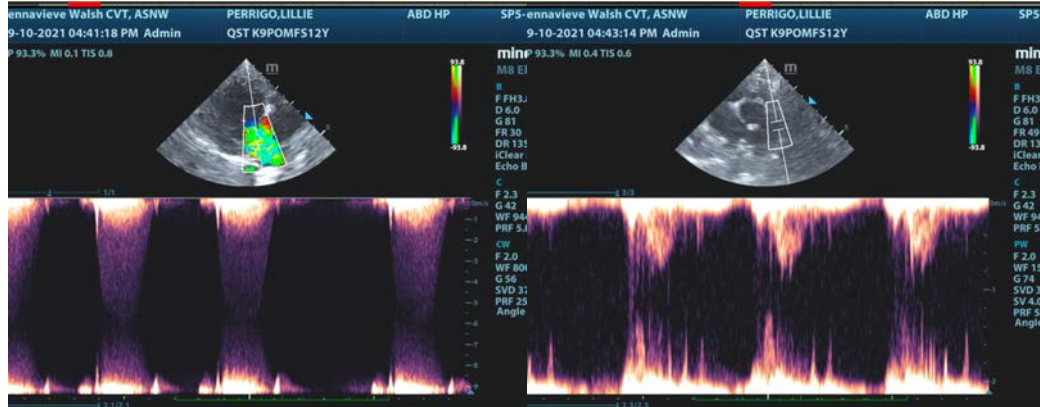
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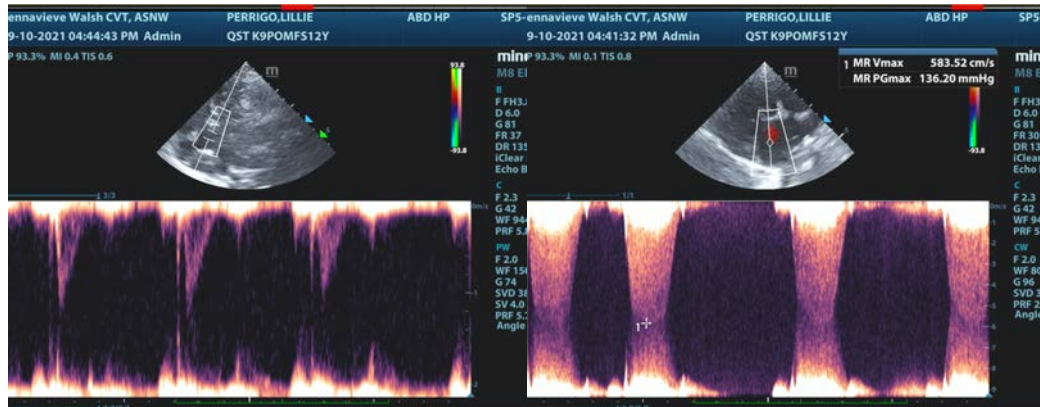
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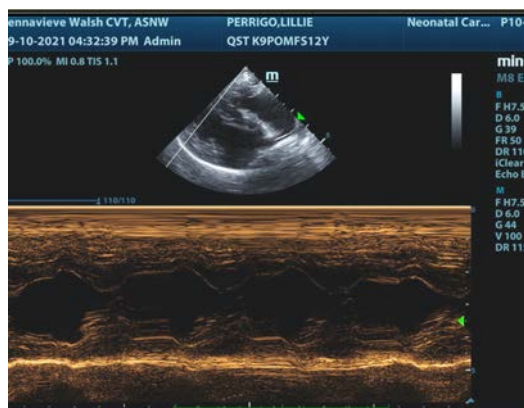
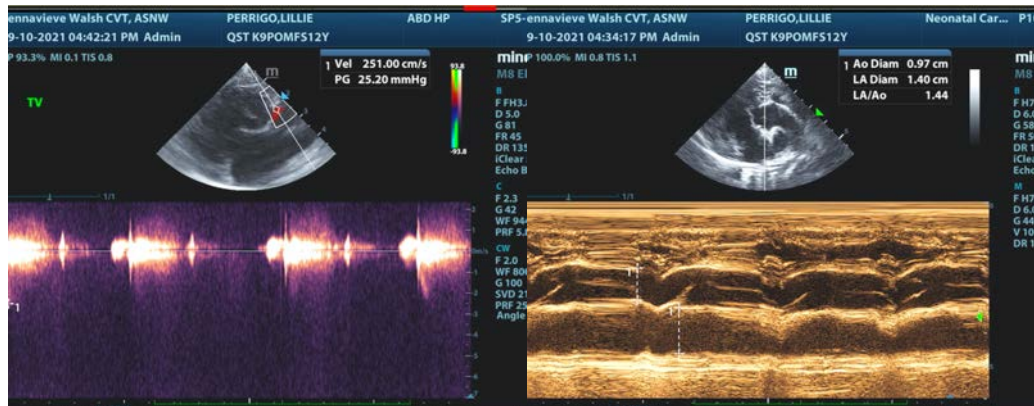
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**IMAGING PERFORMED BY**

Jenna Walsh

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.

**HOSPITAL NAME**

Q Street AH

Eric Lindquist, DMV, DABVP, Cert. IVUSS

CEO of Sonopath.com

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