



**PATIENT**

Layla Haselton

**SPECIES**

Canine

**BREED**

Labrador Retriever

**SEX**

Female

**AGE**

6 years

**WEIGHT**

56 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Ebersole

**HOSPITAL NAME**

Scanvet

**REFERRING VET**

Dr. Barengo

**INVOICE**

43031

**DATE**

2/28/23

**PRESENTING CLINICAL SIGNS**

History: Suspect Hypertrophic Osteopathy secondary to lung mass/lesion. Dog is a trained Bed Bug Detection dog, now retired. Has been up and down the East Coast working.  
PE: Firm swelling of elbows, carpi and hocks, swelling extends from carpi and hocks thru paws. Bilateral conjunctivitis. RADS, attached: Significant mass in thorax; suspect is lung in origin. Periosteal new bone +/- lytic lesions distal right ulna. BW: ALP 257  
Right caudal lung mass was noted on radiographs.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). An external lung mass was noted and impinged upon the pericardium, yet appears to be moving separately. The mass does not appear to be a part of the heart, yet impinges upon the heart base, vena cava and diaphragm. No pericardial effusion was present. Areas of mineralization were noted. The mass impinges caudally upon the diaphragm and is mineralized. It appears to be encapsulated. Areas of the mass appeared cavitated.

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base;)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT		2.63	NM		25	48	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	BELOW	BELOW	BELOW	BELOW
PATIENT		1.76	1.22	56 lbs	3.75 max	5.4	



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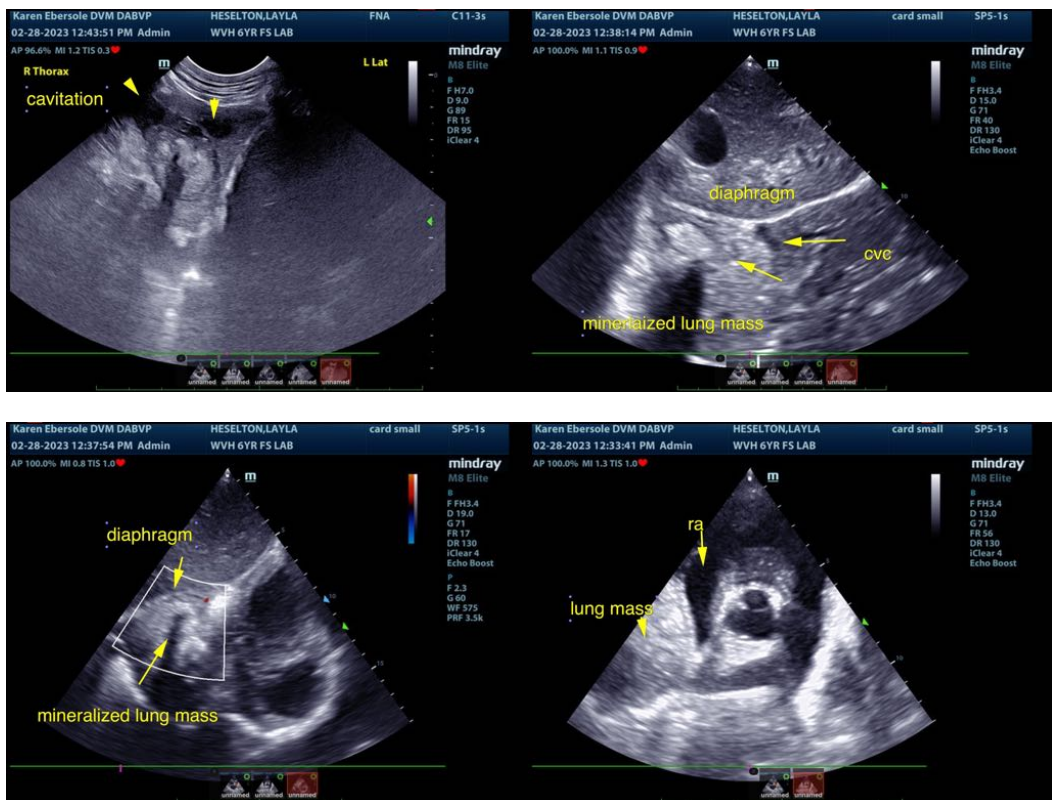
**ULTRASONOGRAPHIC FINDINGS**

Caudal lung mass, impinging upon heart base, vena cava and diaphragm. Potentially resectable. Granulomatous lesion, hypertrophic osteopathy and carcinoma are all possible.

Normal echocardiogram with cardiac deviation and secondary tricuspid insufficiency, This is likely owing to primary lung disease. Tricuspid insufficiency is not clinically significant.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Chest CT is warranted for surgical planning. If surgical attempt is taken the surgeon should be prepared for impingement or potentially envelopment upon the caudal thoracic vena cava. There is possible adherence to the diaphragm and possible adherence to the pericardium. The mass appears to move separately from the diaphragm and heart in video clips; however, the relationship to the vena cava is concerning. Surgical consult is recommended.





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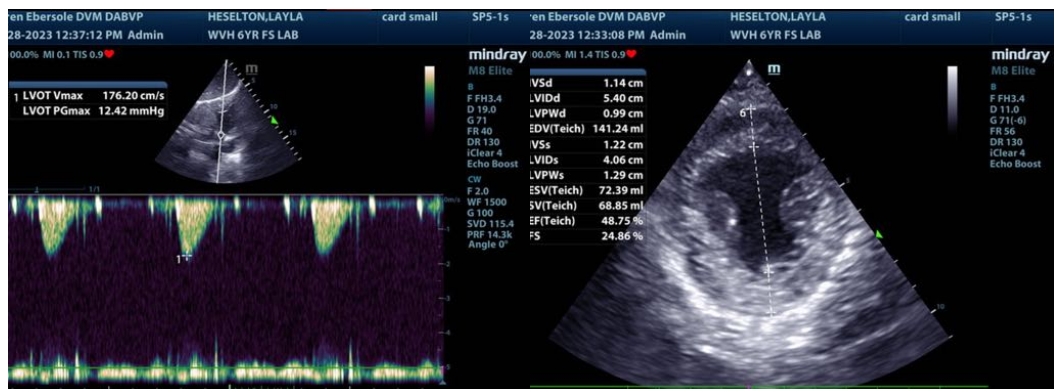
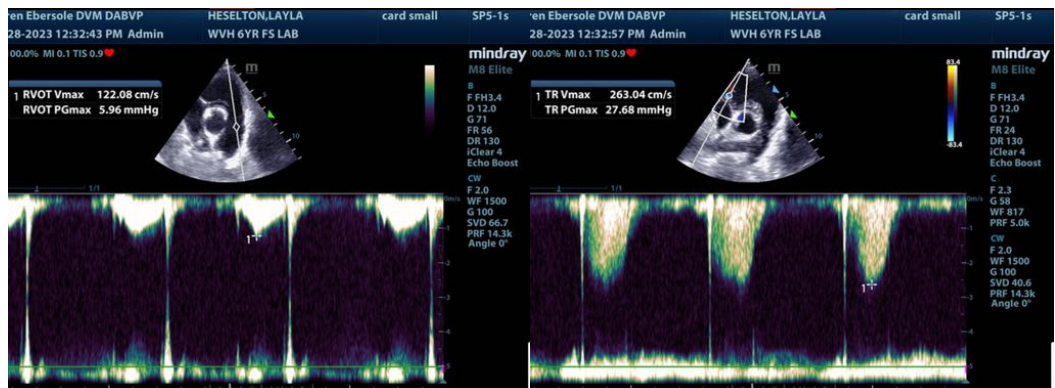
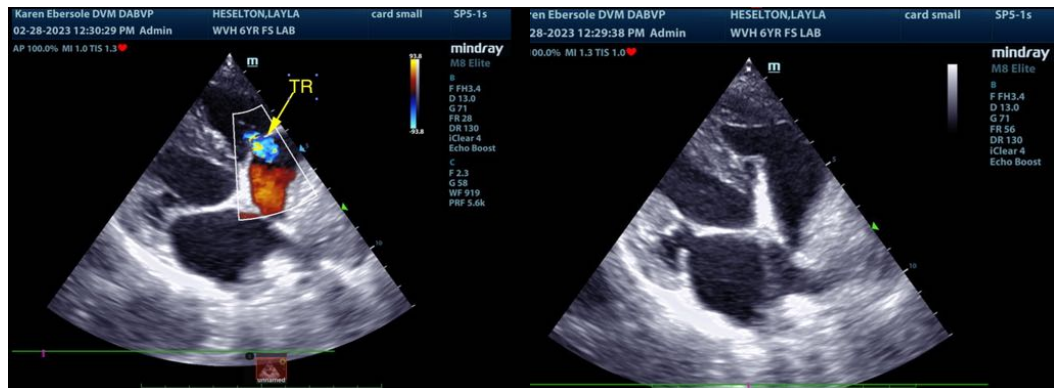
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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