



PATIENT

Penny Yheulon

SPECIES

Canine

BREED

American Bulldog

SEX

Spayed Female

AGE

13 Years

WEIGHT

48 Pounds

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Mavis McCormick-Rantze

HOSPITAL NAME

Lanier AH

REFERRING VET

Dr. Mavis McCormick-Rantze

INVOICE

21450

DATE

3/4/23

PRESENTING CLINICAL SIGNS

History: Presented on 2/27/23 with a history of abnormal/labored breathing since the previous Thursday; getting worse and also has been off/not eating normally 7 - 10 days; also since Thurs. not acting normal; seems restless; can't get comfortable On 2/27 took chest rads (report attached), report included - treated for pulmonary edema w/ injectable furosemide and followed up with oral Furosemide to go home; When presented for echo on 3/2/23 owners reported that she was doing much better and not so much labored breathing.

Abnormal PE/Chem/CBC/UA Results: On PE very labored breathing; chest crackles - overweight; no heart murmur heard that is obvious

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	<1.3	28-40	40-100	<0.6
PATIENT	--	--	1.15	--	40	--	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	--	--	--	--	--	3.2	--

Cardiac Presentation

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** valve was thickened. The right ventricular, right atrial and pulmonary artery enlargement was noted in this patient. No evidence of heartworm, however, cannot be completely ruled out. The right atrial ratio in 4 chamber long axis was 1.5:1. No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window. Arrhythmogenic disease appeared to be present. The hepatic veins were not dilated in this patient, therefore no overt right sided heart failure present.



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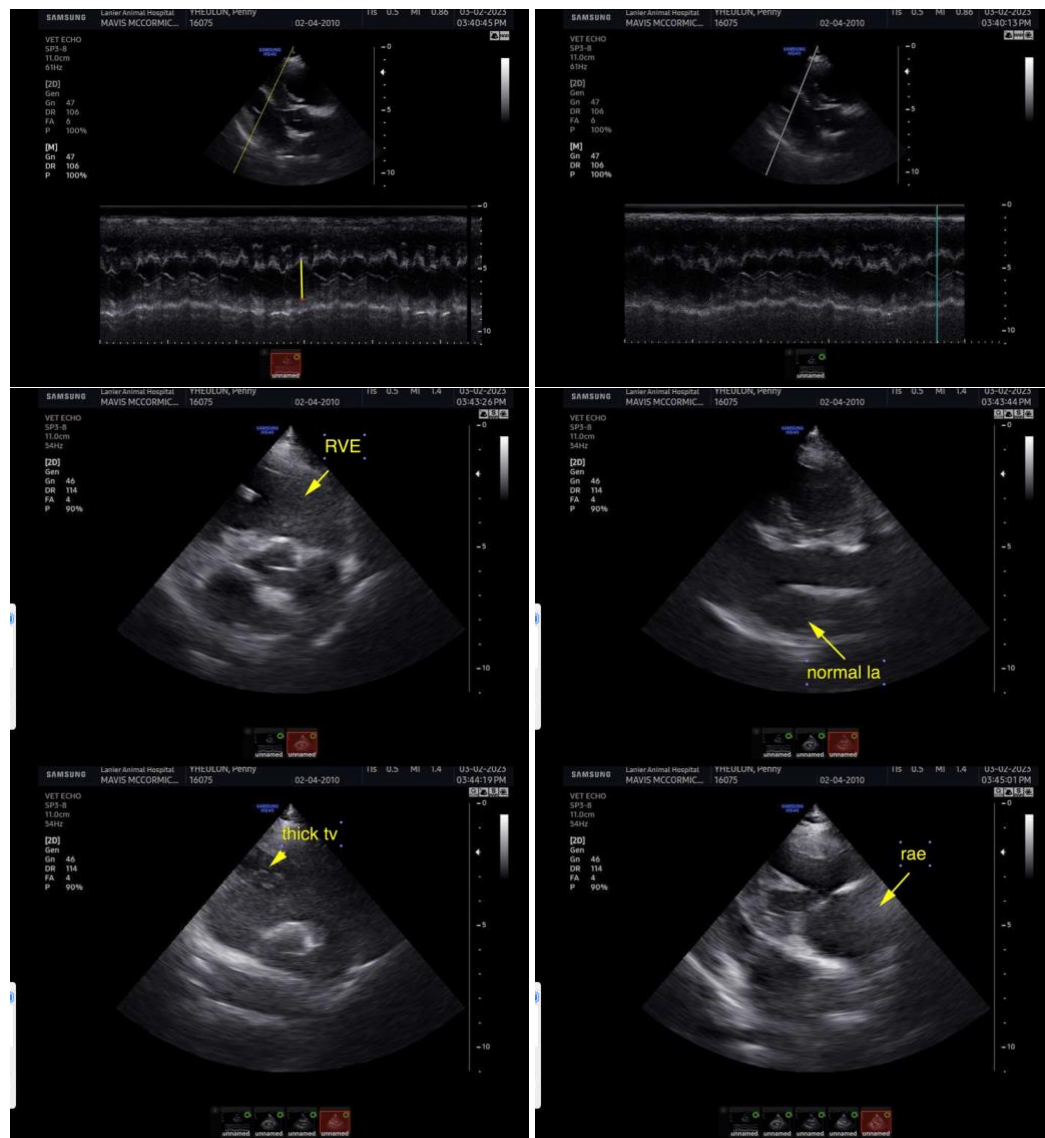
3/4/23

ULTRASONOGRAPHIC FINDINGS

- Enlarged right heart
- Normal left heart
- Thickened tricuspid valve- suspect tricuspid insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The hepatic veins were not dilated in this patient, therefore no overt right sided heart failure present. The respiratory signs are not likely to be owing to primary cardiac disease, however, secondary right sided enlargement is likely playing a role. There is no evidence of left sided failure; even with the Lasix therapy, this may be assisting in primary respiratory disease, however, the right heart enlargement is likely secondary to pulmonary disease. Further tricuspid and pulmonary doppler assessments with TR velocities are indicated. No specific therapy is necessary at this time based on the cardiac findings, unless tricuspid and pulmonary doppler reveal further information that would suggest a necessity to treat for right sided heart disease.





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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.

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