



**PATIENT**

Jack Animal Welfare Society

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Neutered male

**AGE**

10 years

**WEIGHT**

6.9 kg

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Van Campen

**HOSPITAL NAME**

Mississippi Mills AH

**REFERRING VET**

Dr. Van Campen

**PRESENTING CLINICAL SIGNS**

In rescue for 2 weeks - owner passed away - no previous history available. Grade V/VI heart murmur ausc on admit exam . PMI left side but heard everywhere. Foster reports coughing - none noted on exam or in day at the clinic. X-ray - no obvious congestion - VHS - 11.5 Started on Vetmedin 2.5 mg BID Foster reports a slight increase in cough since starting vetmedin. Abnormal PE/Chem/CBC/UA Results: BP - 110/60 . systolic range in BP from 95-138. (oscillometric BP)

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

Moderate to severe chronic **left atrial** enlargement was noted with atrial septal deviation and **mitral** valve prolapse was noted. The **left ventricle** revealed volume overload with non-compensatory contractility. This is consistent with early myocardial insufficiency. Minor aortic insufficiency was noted. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Moderate **tricuspid** insufficiency was noted with moderate filling of the right atrium. 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. Early comet tail lung pattern was noted in this patient. Suspicious for early pulmonary edema.

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	5.04		NM	2.0	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		1.5	0.6	6.9	4.4 max	3.8	

**INVOICE**

94991

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1/4/22



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**ULTRASONOGRAPHIC FINDINGS**

Moderate to severe chronic left atrial enlargement was noted with atrial septal deviation and mitral valve prolapse.

Mitral, tricuspid and aortic insufficiency.

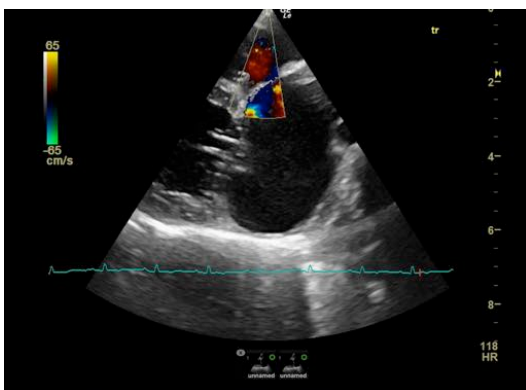
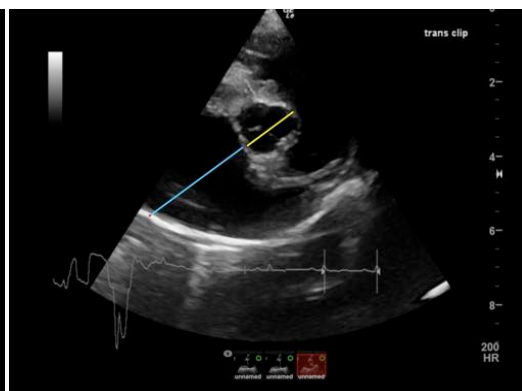
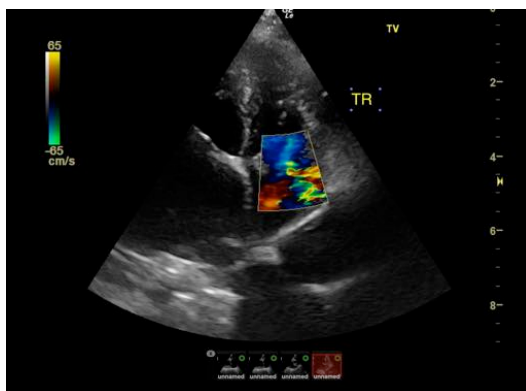
Volume overload noted in the left ventricle.

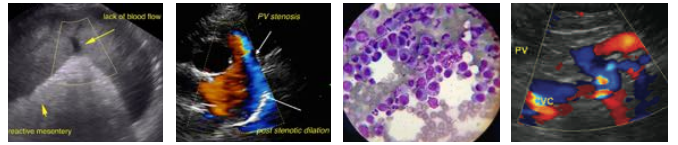
Early C1 valvular disease.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

I recommend quadrotherapy in this patient. Lasix should be added at 2-3 mg/kg b.i.d. Ace inhibitor is recommended at 0.5 mg/kg s.i.d. progressing to b.i.d. Consider Spironolactone at 1-2 mg/kg b.i.d. Pimobendan should be continued. Guarded prognosis.

B2/C1: The heart is in a somewhat precarious state with volume overload and a heart that is working to compensate for the valvular insufficiency. Target respiratory rate is < 20 resp/minute after therapy. After initiating therapy, I recommend recheck on the clinical exam, BUN, Creatinine, USG, Chest radiographs & Blood pressure in 5-7 days. Recheck echo in 1 month. Earlier if clinical decompensation is occurring. I do not recommend anesthesia at this time until stabilization has occurred on the recommended medications. Repeat pre-anesthetic echo is ideal if anesthesia is eventually necessary.





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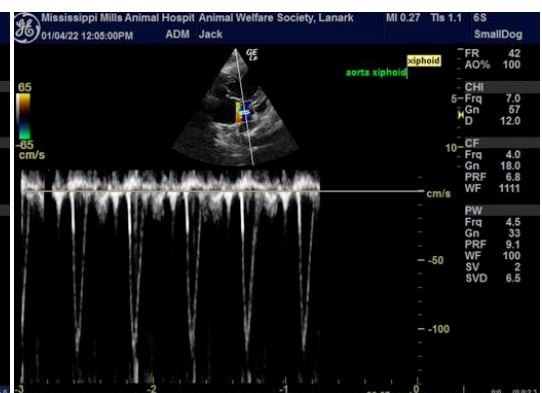
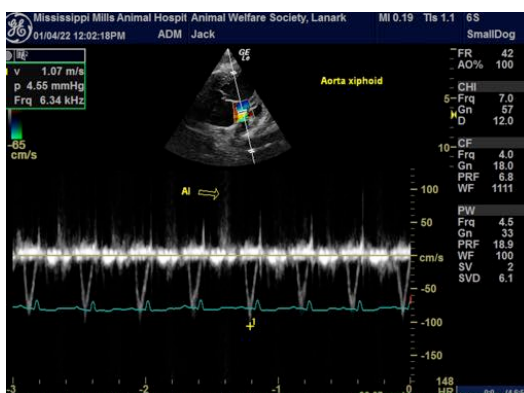
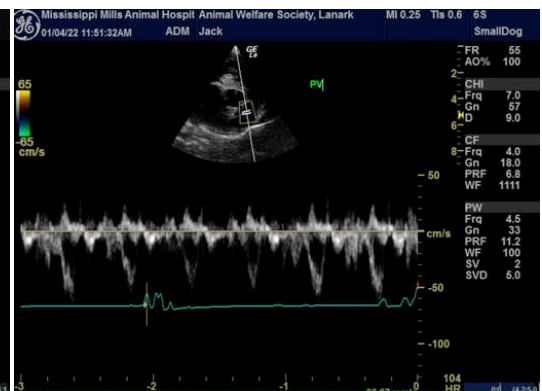
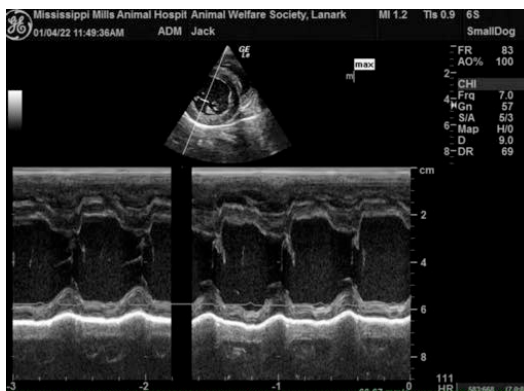
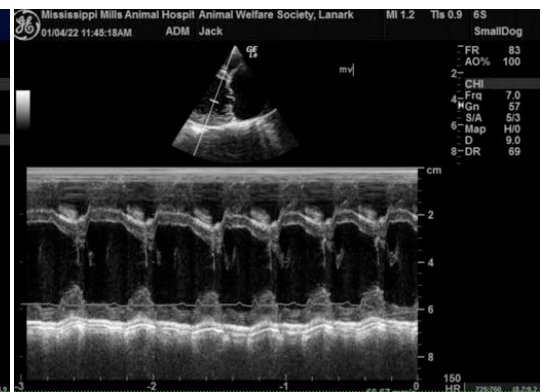
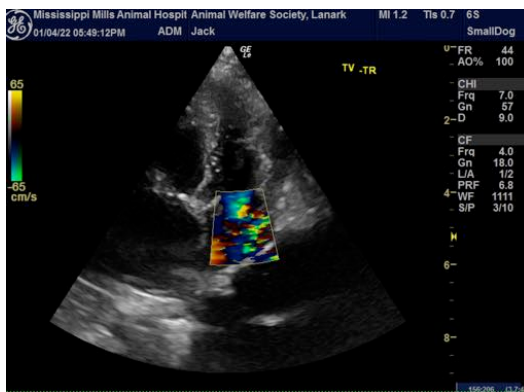
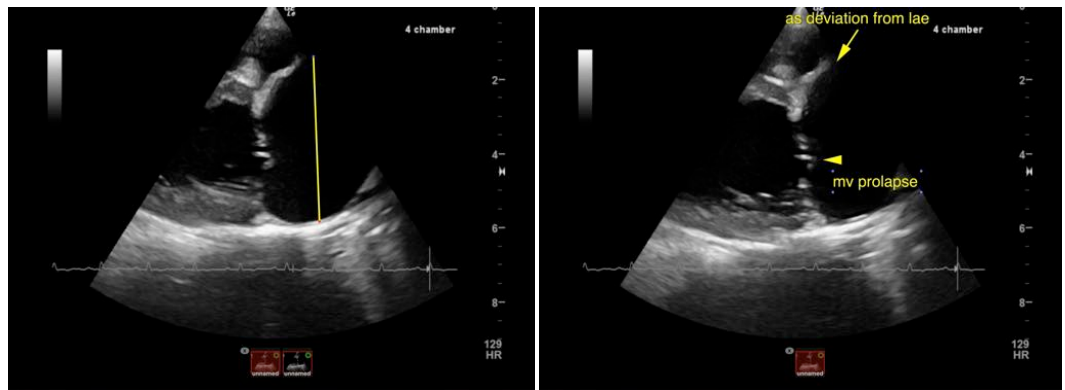
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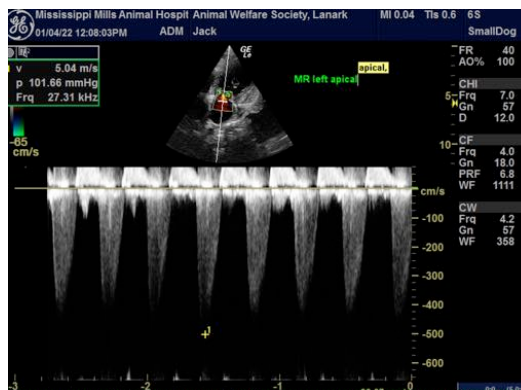
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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