



**PATIENT PRESENTING CLINICAL SIGNS**

**Zoe Smith** History: Enlarged cardiac silhouette w/tracheal elevation and perihilar longestim Current meds: Furoquid 10mg/ml 0.5mL PO BID, enalapril 15mg 1/2 tab sid  
**SPECIES** Abnormal PE/Chem/CBC/UA Results: BW performed 12/17/22 ALP 228 (51-131), Rest NSF U/A performed 1/7/22 SG: 1.045

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**BREED**

Shih Tzu Mix

**SEX**

Spayed female

**AGE**

10 years

**WEIGHT**

17 lbs

The echocardiogram in this patient demonstrated enlarged **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Prolapse of the anterior mitral valve leaflet was noted. Doppler indicated measurable insufficiency. The **left ventricle** presented normal 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.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Valeryia Shumskaya

**HOSPITAL NAME**

Warren AH

**REFERRING VET**

Dr. Nicole

**INVOICE**

43193

**DATE**

3/8/23

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	5.5	2.0	1.8	1.75	38	69	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	LA (2D short axis Base view)	LVIDd (Avg; 2D and m-mode short axis)	LVIDs (Avg; 2D and m-mode short axis)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	161	1.5	0.9	17 lbs	3.4	3.62	



**PATIENT**

Zoe Smith

**ULTRASONOGRAPHIC FINDINGS**

Mitral insufficiency, mild left atrial enlargement on current protocol.

Advanced stage B2 valvular disease.

**SPECIES**

Canine

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**BREED**

Shih Tzu Mix

Given that ace inhibitor and Lasix has been utilized in this patient, I recommend gradual reduction of Lasix dose and transitioning to Pimobendan at 0.3 mg/kg b.i.d. and Spironolactone at 1-2 mg/kg b.i.d. and continuing with Enalapril. I recommend to monitor blood pressure measurements to ensure that systolic pressure is less than 160. Ideally a recheck echocardiogram is recommended in a month to assess the adjusted protocol with regards to the echocardiogram.

**SEX**

Spayed female

The heart has some volume overload and 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 preanesthetic echo is ideal if anesthesia is eventually necessary

**AGE**

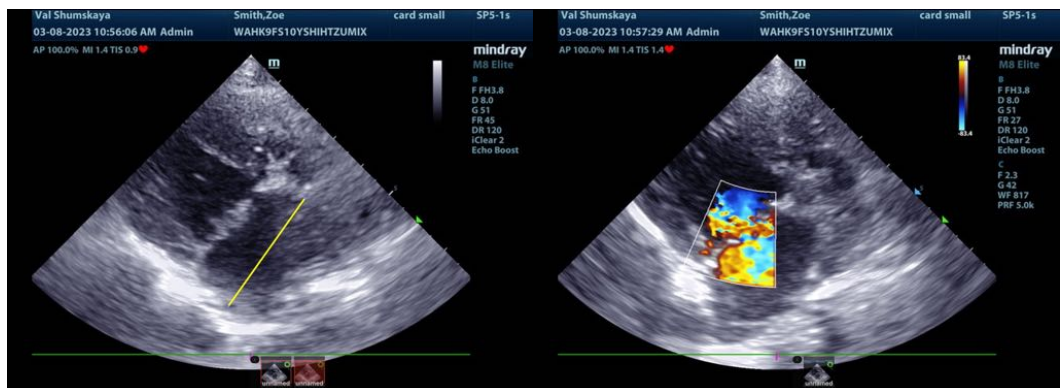
10 years

**WEIGHT**

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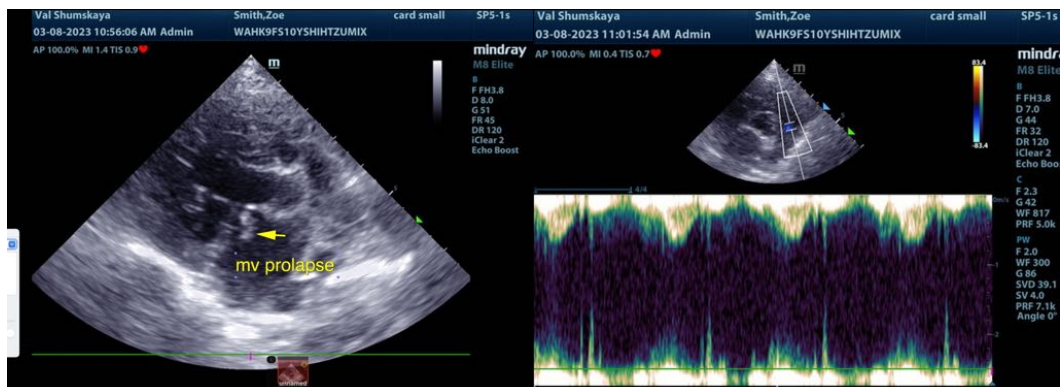


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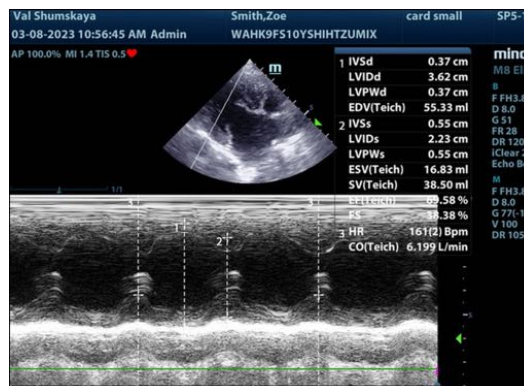
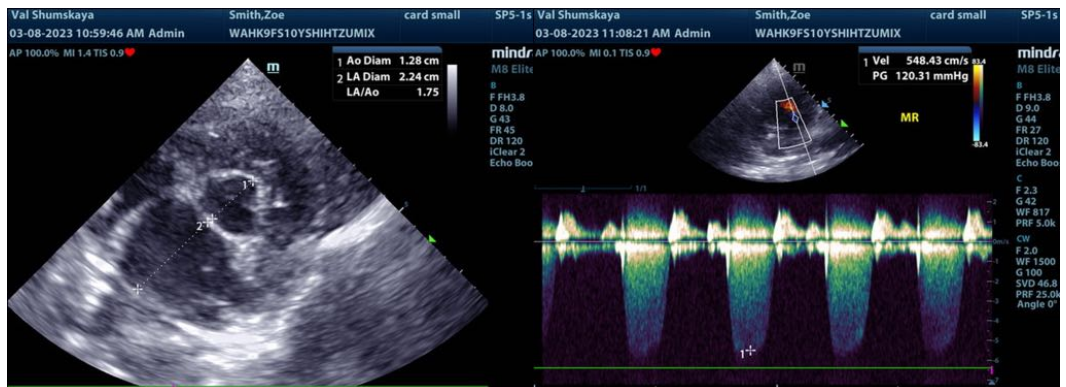
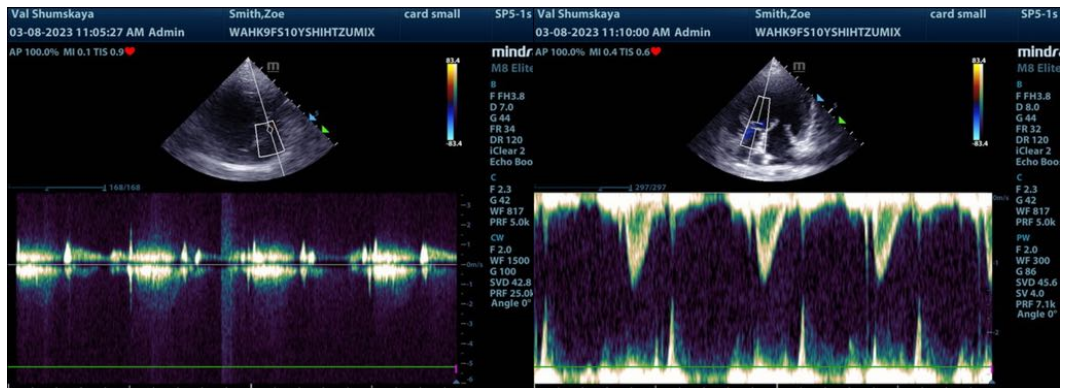
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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