



<b>PATIENT</b>	<b>PRESENTING CLINICAL SIGNS</b>
Tana Olson	<p>Subjective 2 episodes since Friday, First one on Friday second one this morning. Lasts for about a minute, gets wobbly when walking at beginning of episode then will fall on her side, legs get stiff, doesn't seem to be aware of O or what's going. After seems back to normal. 1st episode P released bowels. High pitch sequel for about 15 seconds at the beginning of episode. E/D Didn't eat wet food this AM, ate treat . Not odd for P not to want food. Been drinking normal V/D/C/S sneezing and coughing more than normal. Has had allergies in the past. Meds/supplements Eye drops Cyclosporine First episode she was shaking; on the 2nd she was not but her tongue was out; O does not feel she was alert rcd Objective BAR; energetic; p/m mm; CRT 1-2s; no arrh; 5/6 murmur PMI L side but can hear on R; femoral pulses s+s; no abn lung sounds; no abd dist; no pain or abns on abd palp; ears, LNs WNL; OS- normal menace and PLR; OD- sl decreased menace; sl opacity on cornea with thin vessels; no blephorospasm or blephoredema; no pain on palpation or manipulation of neck, back, hips; CPs and paper test WNL x4; pulled blood for cbc/chem Assessment Epilepsi vs syncope vs open Elevated liver enzymes Plan Recommended echo, US liver +/- bile acids test +/- halter monitor test; if another episode recommended taking a video of it and sending to us for eval; Os will talk about it and call back rcd NIBP (8/25/21)- Sep 01, 2021 Plan in Cart Wed, 01 Sep 2021 08:48 Diagnostic 1.00 Echocardiography with Referral Radiologist Read Wed, 01 Sep 2021 08:48:42 Cost includes STAT read thru Sonopath Requisition Sm Req ( ReqID 172261) Reason for Visit Wed, 01 Sep 2021 08:11 Report Card Echocardiogram Bile acids testing. BS SOAP Note Wed, 01 Sep 2021 07:35 Subjective p/ is doing better at home has had 1 episode of the fainting activity since p/ was here last wheezing and not breathing well, will be triggered randomly, C+- not as hard as she used to p/ only walks only about 100 ft from house, no long walks anymore meds: cyclosporine no other concerns amh Examination Wed, 01 Sep 2021 07:31 Vitals Weight: 11.6 Lb Aug 30, 2021 Medical Notes Mon, 30 Aug 2021 11:38   Message Board Hi Kelly, My apologies. I thought I had replied to your email. I looked at the videos you sent us (thanks for doing that) and it is a bit unclear what is going on. She seems to be aware of her surroundings. The best option is to move forward with an echocardiogram and potential 24hr Halter monitor (we'll see what the cardiologist recommends after reading the echo). Thanks, Dr Raul Sent on: Aug 30, 2021 11:38 [By Raul Casas On Mon, 30 Aug 2021 11:38] Aug 26, 2021 Medical Notes Thu, 26 Aug 2021 08:13   Person to Person Please see email and videos in file. Original email has been forward to you. (sent to rcd) BS [By staff general On Thu, 26 Aug 2021 08:13] Subjective (Attached) Thu, 26 Aug 2021 08:12 Email from O: BS Dr. Raul, We got a video after her episode of what she is like. She this time was stiff and wouldn't move. It almost was like she stopped breathing for a moment too. She did pee this time. I couldn't send the videos over email because they were too Big. She also ate and drank like normal. So here is the link: <a href="https://photos.app.goo.gl/PUxkapJvcGEhZeAu5">https://photos.app.goo.gl/PUxkapJvcGEhZeAu5</a> Thank you for your time, Kelly Olson Aug 25, 2021 Diagnostics Wed, 25 Aug 2021 15:05 Print / Email Biochemistry Profile- Canine Requisition/Performed Wed, 25 Aug 2021 Result Range Units ALB 4.2 2.5-4.4 G/DL ALP 1907* 20-150 U/L ALT 217* 10-118 U/L AMY 534 200-1200 U/L TBIL 0.3 0.1-0.6 MG/DL BUN 22 7-25 MG/DL CA++ 11.2 8.6-11.8 MG/DL PHOS 4.8 2.9-6.6 MG/DL CRE 0.6 0.3-1.4 MG/DL GLU 110 60-110 MG/DL NA+ 147 138-160 MMOL/L K+ 4.5 3.7-5.8 MMOL/L TP 6.7 5.4-8.2 G/DL GLOB 2.5 2.3-5.2 G/DL HEM 0 NIL NIL LIP 1+ NIL NIL ICT 0 NIL NIL Message Recorded On: Wed, 25 Aug 21 15:05   Author: staff general   Clinician: staff general   State Avenue Vet dw [Message Source Record Memo] Diagnostics Wed, 25 Aug 2021 15:03 Print / Email CBC Auto, Canine Requisition/Performed Wed, 25 Aug 2021 Result Range Units WBC 10.95 6-17 109/L LYM 0.53- 1-4.8 109/L MON 0.68 0.2-1.5 109/L NEU 9.64 3.0-12.0 109/L EOS 0.07 0.0-0.80 109/L BAS 0.03 0.00-0.40 109/L LYM% 4.8 0-100 % MON% 6.2 0-100 % NEU% 88.1 0-100 % EOS% 0.6 0-100 % BAS% 0.3 0-100 % RBC 7.69 5.5-8.5 10<sup>12</sup>/L HGB 17.1 12.0-18 G/DL HCT 53.76 37-55 % MCV 70 60-77 FL MCH 22.2 19.5-24.5 PG MCHC 31.8 31.0-39.0 G/DL RDWc 16.1 14-20 % RDWs 41.1 NIL FL PLT 364 165-500 109/L MPV 8.1 3.9-11.1 FL PCT 0.29 NIL % PDWc 35.0 NIL % PDWs 11.1 NIL FL Message Recorded On: Wed, 25 Aug 21 15:03   Author: staff general   Clinician: staff general   State Avenue Vet dw [Message Source Record Memo] Plan Performed Copy As Active Plan Wed, 25 Aug 2021 15:01 Diagnostic All Requisitions 1.00 Blood Pressure Wed, 25 Aug 2021 15:01:58 2:30pm 202/155 85/59 108/77 NIBP (9-1-21): 107/92</p>
<b>SPECIES</b>	
Canine	
<b>BREED</b>	
Shih Tzu/Maltese	
<b>SEX</b>	
Spayed Female	
<b>AGE</b>	
11 Years 11 Months	
<b>WEIGHT</b>	
11.6 Pounds	
<b>INTERPRETED BY</b>	
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	
<b>IMAGING PERFORMED BY</b>	
Dr. Jessie Evoniuk	
<b>HOSPITAL NAME</b>	
State Ave Vet	
<b>REFERRING VET</b>	
Dr. Jessie Evoniuk	
<b>INVOICE</b>	
25098	
<b>DATE</b>	
9/1/21	



## PATIENT ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Tana Olson

### SPECIES

Canine

### BREED

Shih Tzu/Maltese

### SEX

Spayed Female

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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	5.0	3.7	NM	2.5	50	85	0.24
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	NM	NM	NM		3.5	2.8	

### Cardiac Presentation

The echocardiogram for this patient presented moderate to markedly excessive **left atrial size** expressed both in the LA/AO and LA max measurements with mild horizontal component. Deviation of the intraatrial septum towards the right atrium (indicative of elevated left atrial pressure) was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis with potential for very minor septal leaflet prolapse. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented normal thicknesses with linear contour with subjective mild increased left ventricular volume. 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 mild concurrent vegetative thickening. Color doppler assessment of the tricuspid valve revealed tricuspid valve insufficiency. 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.

### ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease with moderate to marked left atrial enlargement exhibiting subtle horizontal component (ACVIM B2 to C)
- Mild to moderate pulmonary hypertension – estimated pulmonary pressure gradient based on tricuspid valve insufficiency approximately 50 mmHg.



**PATIENT**

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**SEX**

Spayed Female

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cause of the murmur is chronic degenerative valvular changes with primary eccentric mitral valve and mild concurrent tricuspid valve insufficiency. The moderate to marked left atrial enlargement with mild horizontal component indicates that the risk of current and future complication is elevated with potential for current clinical signs. The mild to moderate pulmonary hypertension in this case may be multifactorial in origin if history of lower airway disease, yet may be secondary to increased left heart volume. Potential for intermittent to paroxysmal arrhythmia cannot be excluded, although overt evidence of arrhythmogenic disease was not noted.

Prognosis at this stage is guarded, yet medical therapy is recommended. Pimobendan 0.3 mg/kg PO BID, Spironolactone or Lasix 1-2 mg/kg PO BID, with assessment of blood pressure and monitoring of ECG suggested. ACE inhibitor medication may be considered if blood pressure is >130 (not recommended if blood pressure is <130). This patient is an anesthetic risk, and avoidance of anesthesia is recommended. Baseline monitoring of resting respiration rate suggested. Ideally, recheck sonogram recommended in 4-6 weeks, primarily to reassess tricuspid insufficiency and pulmonary pressure gradient.

**AGE**

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**WEIGHT**

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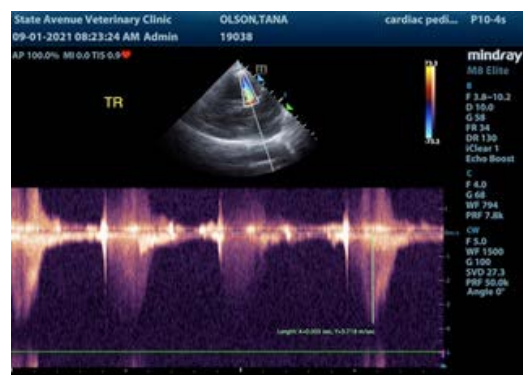
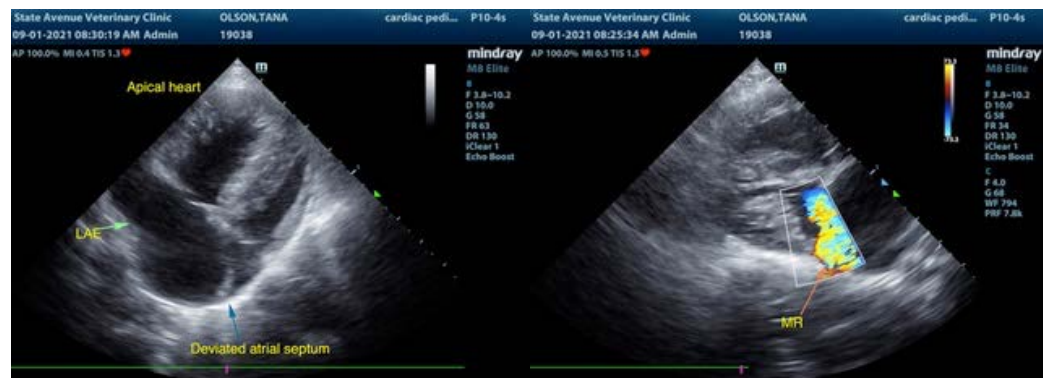
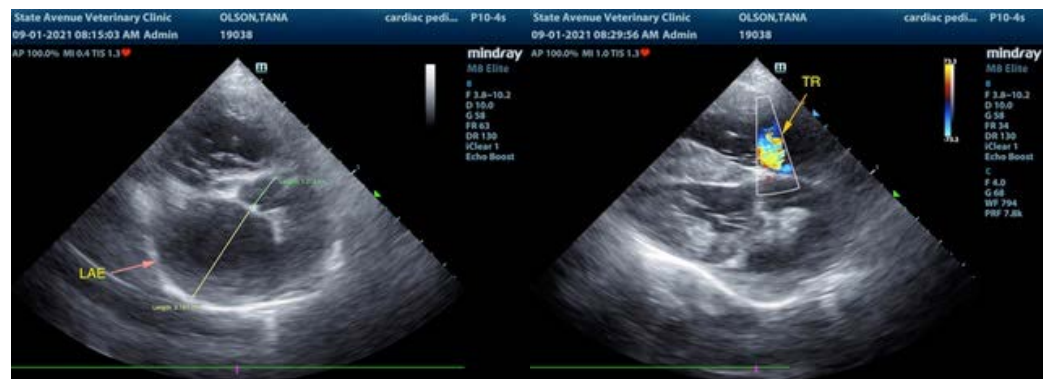
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**PATIENT**

Tana Olson

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.

**SPECIES**

Canine

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.

**BREED**

Shih Tzu/Maltese

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)  
info@SonoPath.com

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