



**PATIENT PRESENTING CLINICAL SIGNS**

**Sadie Cisney** Sadie has had progressive (now severe) masticatory muscle atrophy but no symptoms until late July this year. She went from being the fastest eater to eating slowly and not finishing food to being even picky about what she eats. Abdominal scan then was normal, no labs done, lab panel was normal in October. Myositis was not tested for but assumed to be the issue. No treatment initiated. Wellness visit and panel revealed low grade heart murmur, elevated LE's, and a mild elevation in proBNP.

**Canine** Abnormal PE/Chem/CBC/UA Results: PE: Grade I/VI systolic murmur left heart base, severely wasted masticatory muscles, no pain or limitation on opening mouth, normal oral exam. PENDING: Bile Acids, FNA Liver CBC: Retic 143 K/uL Chem: ALT 650 U/L, AST 92 U/L, ALP 1421 U/L, GGT U/L, Lipase 470 U/L, Creatine Kinase 345 U/L Spec cPL: 366 ug/L Cardiopet proBNP: 1065 pmol/L TT4: FT4: normal Heartworm / Ehrlichia / Lyme / Anaplas: Negative Fecal Antigen Screen & Flotation: Negative

**Australian Shepherd**

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

**SEX**

Spayed Female

**AGE**

7 Years 2 Months

**WEIGHT**

46.8

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Leon Anderson

**HOSPITAL NAME**

Elizabeth AH

**REFERRING VET**

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9/15/21

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		1.08	1.2	1.5	19	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		1.99	1.3		3.08	2.05	

**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 hypocontractility, yet normal septal and free wall thicknesses as well as internal diameter. 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). 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.



**PATIENT**

**Urinary System**

Sadie Cisney

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

**SPECIES**

Canine

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen.

**BREED**

Australian Shepherd

Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 5.8 cm.

**SEX**

Spayed Female

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 2.68 cm x 0.78 cm at the caudal pole and 0.74 cm at the cranial pole. The left adrenal gland measured 2.50 cm x 0.45 cm at the caudal pole and 0.39 cm at the cranial pole.

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**Spleen**

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

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Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Liver**

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

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**Gastrointestinal**

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**Pancreas**

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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**ULTRASONOGRAPHIC FINDINGS**

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- Normal echocardiogram with hypocontractility – systemic disease, hypothyroidism, athletic state can present in this fashion. DCM criteria is not present.
- Unremarkable liver – consistent with benign hepatopathy.



**PATIENT**

Sadie Cisney

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of primary disease present.

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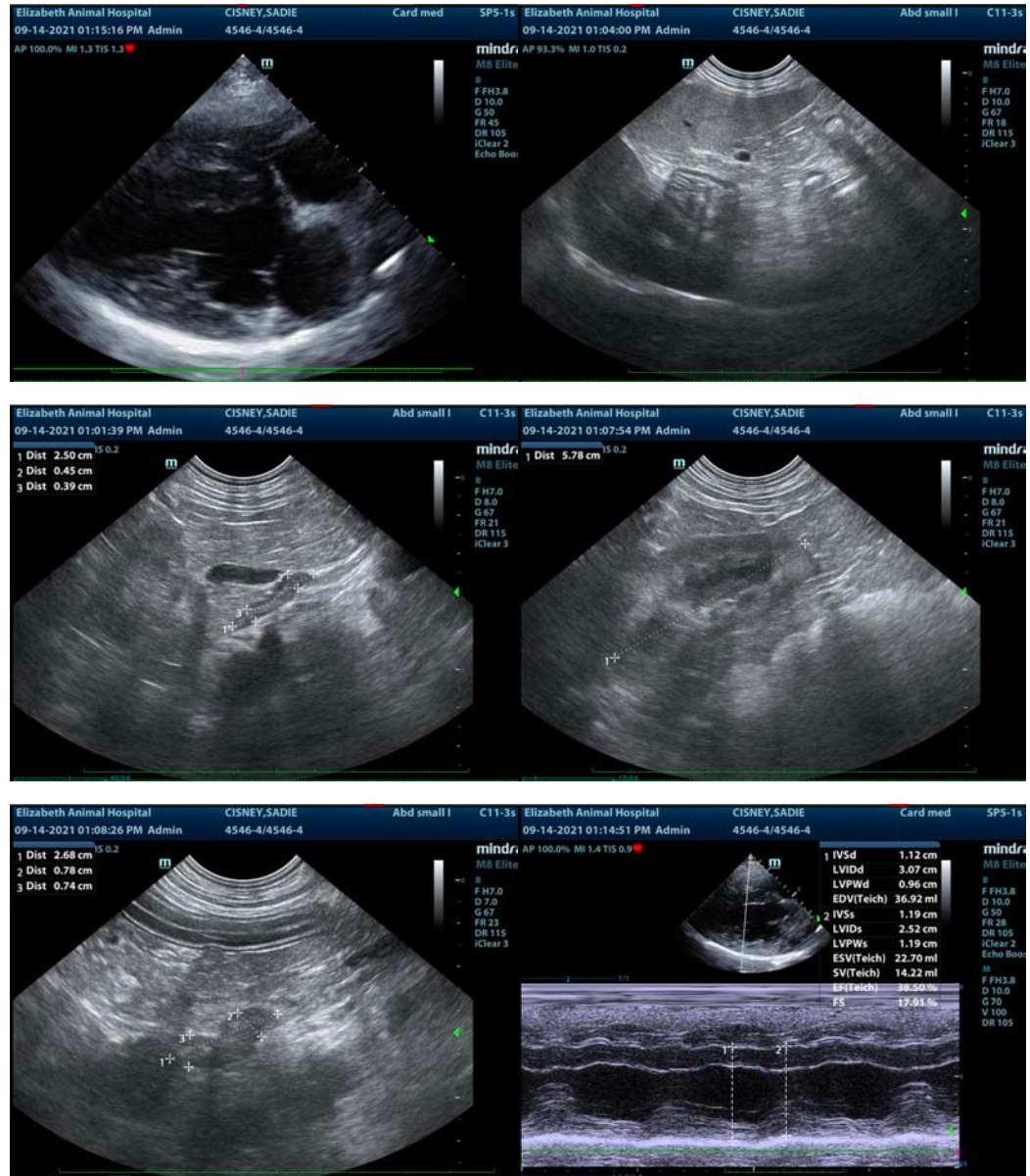
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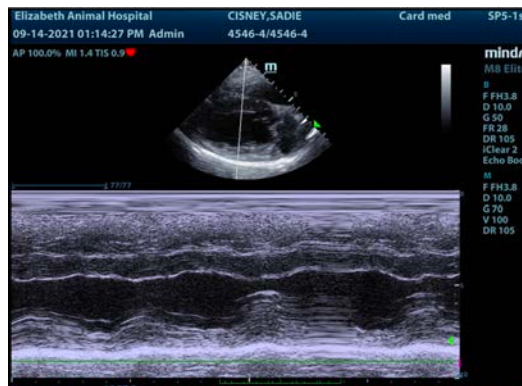
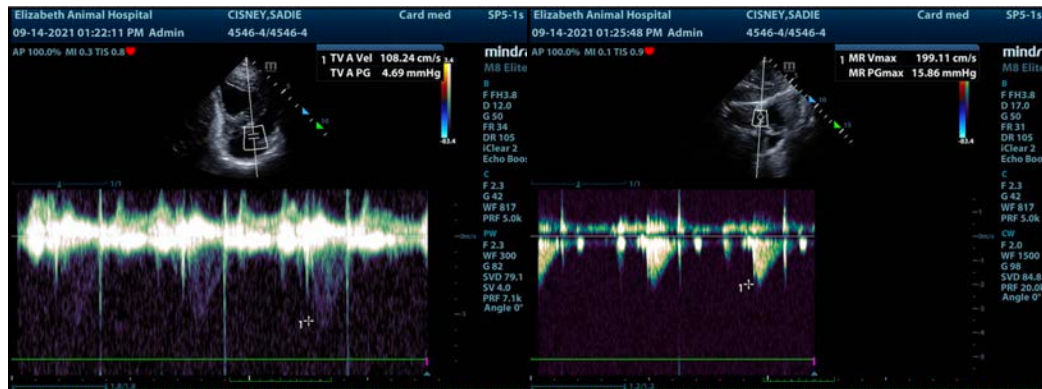
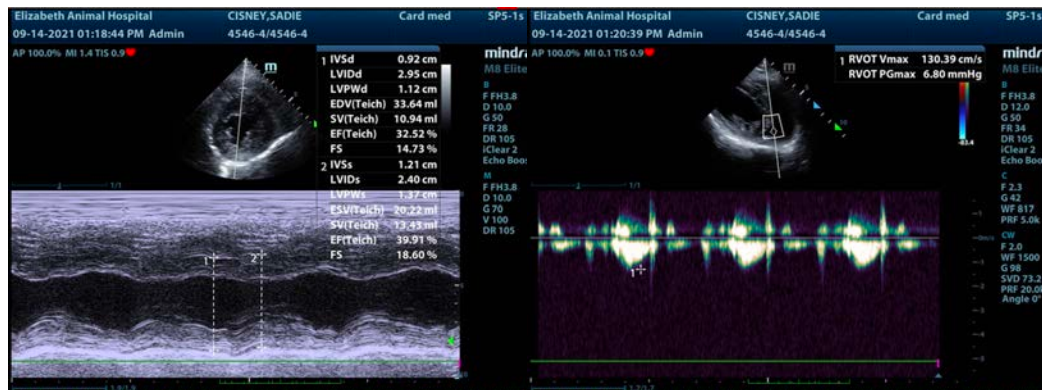
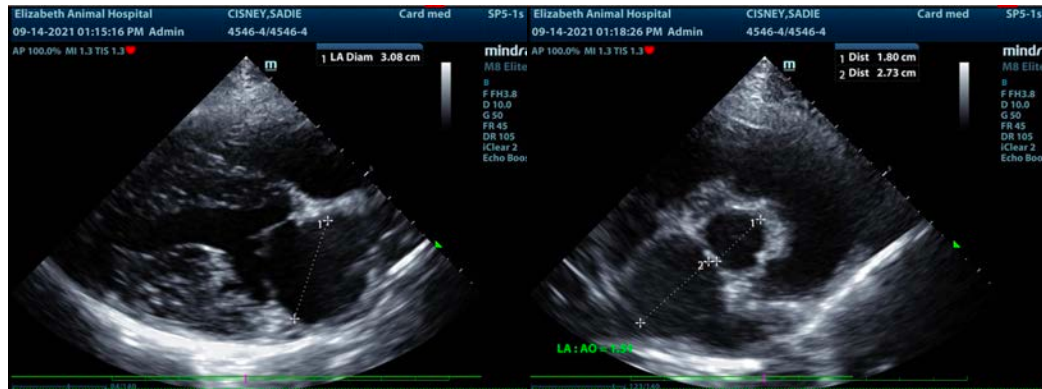
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**PATIENT**

Sadie Cisney

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**

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