
**PATIENT**

Samson Mansfield

**SPECIES**

Canine

**BREED**

Labrador Retriever

**SEX**

Neutered Male

**AGE**

11 Years 10 Months

**WEIGHT**

93 Pounds

**INTERPRETED BY**

 Eric Lindquist, DMV  
 DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Alex McFeely, DVM

**HOSPITAL NAME**

Straley VA

**REFERRING VET**

Alex McFeely, DVM

**INVOICE**

22156

**DATE**

4/24/23

**PRESENTING CLINICAL SIGNS**

History: Samson presented today for exam after having had a seizure or syncopal episode on Friday. He has been panting and has had a recent dry cough per owner. He has had gradual onset of hindlimb paresis, but able to walk. On exam today, he had a noticeable arrhythmia, pulse deficits and a rate that ranged from 48 to 138 and a 2-3/6 intensity murmur. His ECG tracing is included separately and will be uploaded along with the cardiac ultrasound images. He was given 8.5mg butorphanol IV to lightly sedate, and had several episodes of "chewing gum-like" focal seizures during the procedure. His BP ranged from 163/99 (121) to 192/87 (123) mmHg. On chest rads today, VHS was 11.5 and was otherwise normal appearing.

Abnormal PE/Chem/CBC/UA Results: Today's lab results: Mildly increased AlkP 233, rest normal, including cbc, T4 and SDMA. 4Dx was neg for all in Oct. 2022.

**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	--	--	1.0	--	25	--	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	--	--	--	--	3.5	2.4	--

**Cardiac Presentation**

The cardiac presentation in this patient presented right sided volume overload with paradoxical septal motion of the left ventricular septum owing to overwhelming right sided volume and pressure. The left ventricle was unremarkable other than volume contracted. Left atrial size was normal. The mitral valve was unremarkable. Contractility was mildly subnormal. All left atrial parameters were within normal limits. The right atrium, however, was overwhelming with a 2:1 ratio to the left atrium. The free wall appeared to be tethered and elongated. The septal tricuspid appeared to be short. Some level of tricuspid dysplasia is likely in this patient. Myocardial tissue thickening/mass was noted, deriving from the right ventricular papillary/ventricular septum, which is physically obscuring the right ventricular outflow tract. Current slight pericardial effusion was noted. The right atrium was unremarkable, other than volume overload and the right auricle appeared free of evident pathology. The hepatic veins were dilated, consistent with emerging right sided failure.

**ULTRASONOGRAPHIC FINDINGS**



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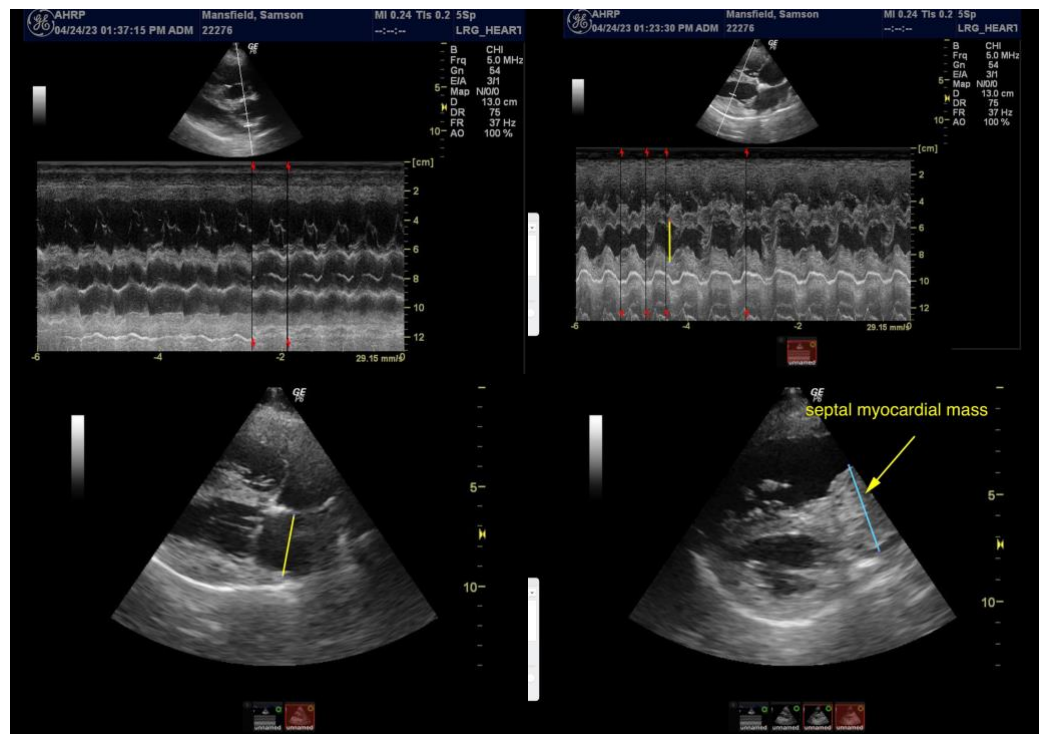
4/24/23

- Tricuspid dysplasia pattern with pronounced myocardial protrusion deriving from the ventricular septum or right ventricular papillary. This may not be neoplastic and may be a congenital malformation that the patient has been living with, and now is causing progressive right ventricular outflow obstruction. Myocardial derived neoplasia, such as sarcoma is also a potential.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cough is likely not related to the heart. A separate pulmonary disease, playing a role, may be contributing to increased right sided pressures. The hepatic vein dilation would suggest that syncope may be owing to poor right sided volume return, especially if the syncope occurred under exercise. Antihypertensives, such as Enacard 0.5 mg/kg BID, could be utilized/recommended given the blood pressure measurements, to reach target pressures <160. Pimobendan 0.3 mg/kg BID could be considered as a palliative measure until potential interventional approach could be taken to liberate the right ventricular outflow tract from the myocardial protrusion. Cardiology referral is recommended for further definition of the tricuspid valve, outflow doppler and potential interventional approach to this patient. The slight pericardial effusion may be owing to paraneoplastic effusion or a long-standing right sided failure.

The myocardial protrusion does have the appearance of a mass, and neoplasia, and appears to be completely deriving from the interventricular septum. I do not believe this is a clot, however, given the tricuspid appearance, I would hope that this patient has a progressive combined congenital component, as opposed to a neoplastic one. However, myocardial sarcoma is a strong potential in this case.





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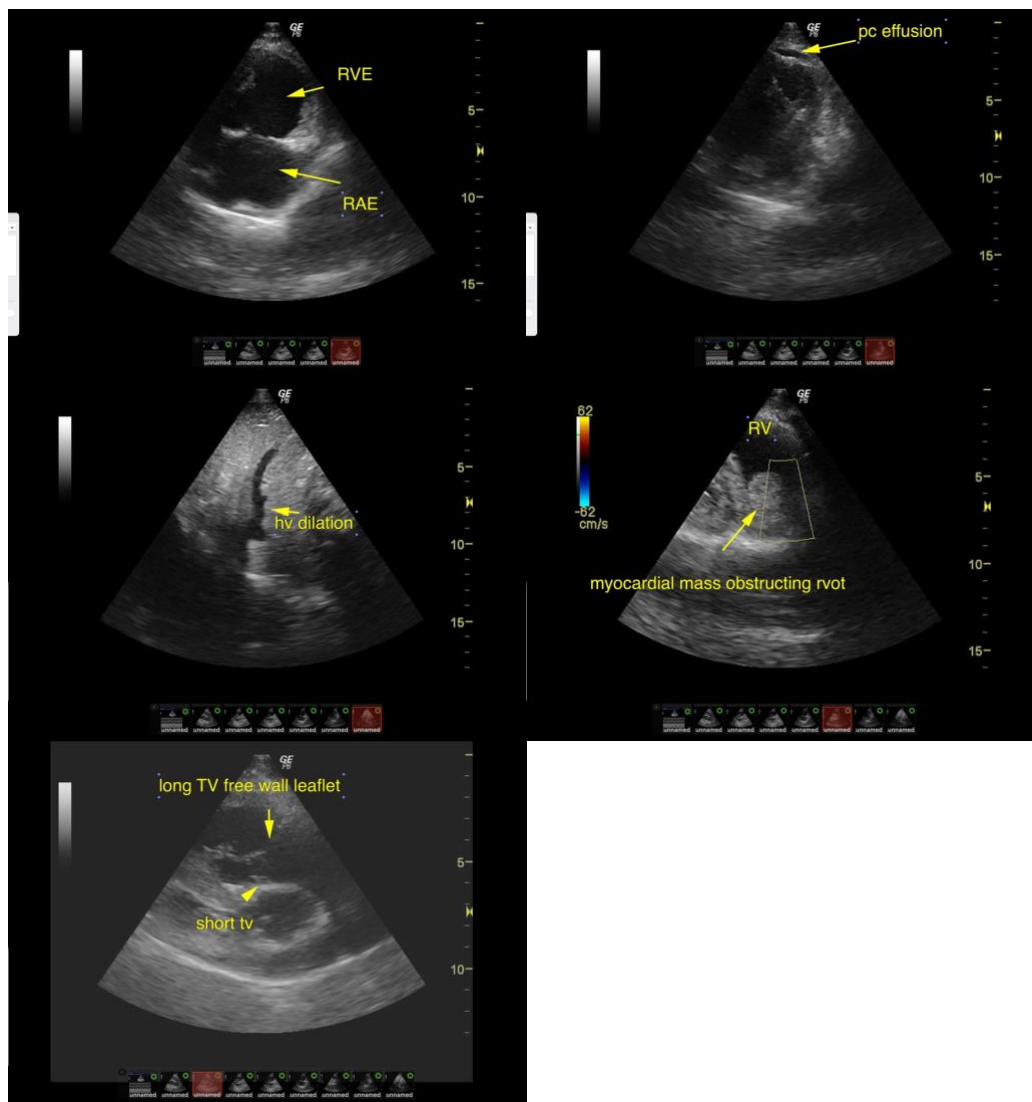
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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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