



**PATIENT PRESENTING CLINICAL SIGNS**

Sandy Marvon Heart check due to breed, elevated liver enzymes  
 Abnormal PE/Chem/CBC/UA Results: ALT 126, Alk Phos 256

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

Canine  
 Breed: Boxer  
 Sex: Spayed Female  
 Age: 10 years  
 Weight: 57 lbs

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 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. Minor, increased **left ventricular outflow** velocity was noted in this patient. This is typical of the breed and a normal variant. 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. Occasional arrhythmia was noted during the exam. Holter monitor would be ideal.

**INTERPRETED BY**

Eric Lindquist, DMV  
 DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Jessica Miller, RDMS

**HOSPITAL NAME**

Companion AH  
 Parsippany

**REFERRING VET**

Dr. Tsai

**INVOICE**

99385

**DATE**

4/19/22

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			1.05	1.15	45	77	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	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	170	2.2	1.51	57 lbs	3.35 max	3.7	

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

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 was noted. Ureteral papillae were normal.



**PATIENT**

Sandy Marvon

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. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The left kidney measured 6.9 cm. A hyperechoic nodule was noted at the caudal pole of the right renal cortex and measured 1.6 cm. The right kidney measured 6.95 cm.

**SPECIES**

Canine

**BREED**

Boxer

**Adrenal Glands**

The right **adrenal gland** was at the upper limits of normal and measured 2.6 x 1.45 cm at the cranial pole and 0.67 cm at the caudal pole. The left adrenal gland was at the upper limits of normal and measured 3.28 x 0.85 cm at the caudal pole and 0.82 cm at the cranial pole.

**SEX**

Spayed Female

**AGE**

10 years

**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 was noted.

**WEIGHT**

57 lbs

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**Liver**

A focal, hypoechoic nodule was noted at the caudal aspect of the left lateral **liver**. The nodule measured 0.97 cm. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. Gallbladder polyps were noted. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

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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.

**REFERRING VET**

Dr. Tsai

**INVOICE**

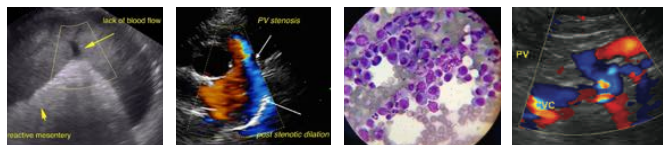
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**Pancreas**

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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**PATIENT**                      **ULTRASONOGRAPHIC FINDINGS**

Sandy Marvon                      Normal echocardiogram with occasional arrhythmia. No evidence of structural disease or volume overload.

**SPECIES**                      Mild, idiopathic increased LVOT velocity, typical for Boxers.

Canine                              Mild bilateral adrenal enlargement.

**BREED**                              Age related hepatic changes with focal, left lateral nodule to monitor.

Boxer                                Gallbladder polyps.

**SEX**

Spayed Female

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

If the patient appears Cushingoid and the urine specific gravity is less than 1.020 then work up for PDH would be appropriate. FNA of the liver could be considered for further definition. Holter monitor would be ideal in this patient given the breed predisposition to arrhythmogenic disease.

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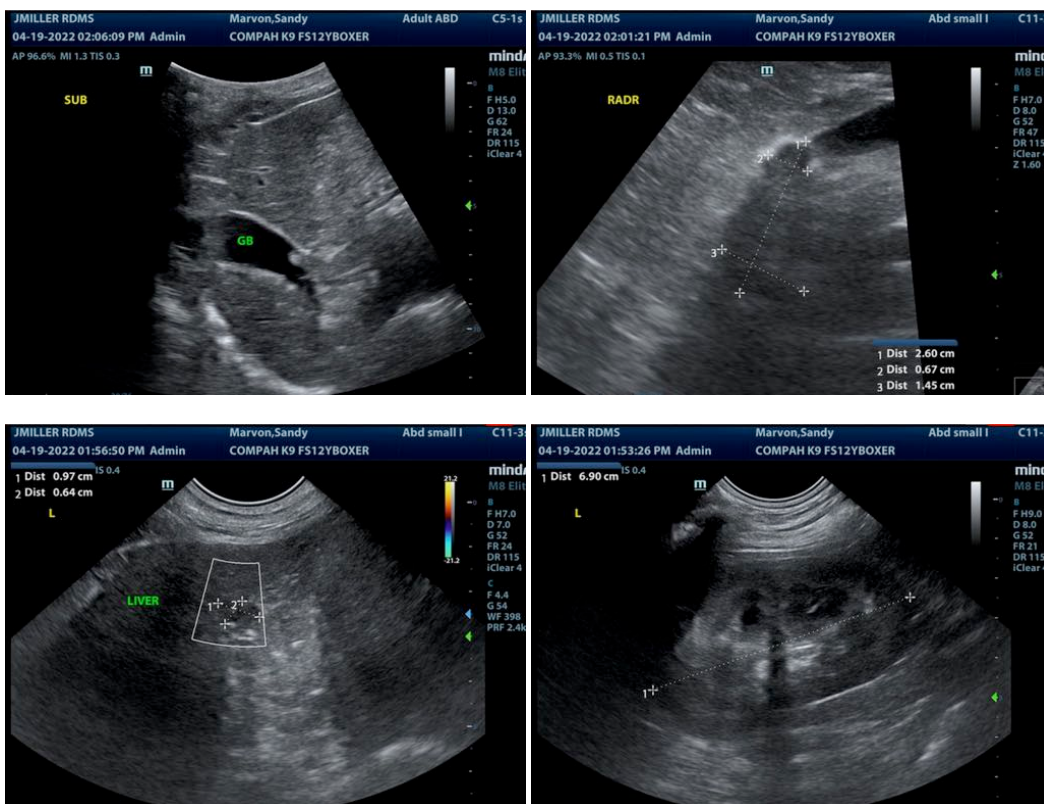
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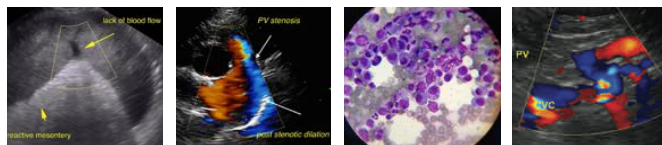
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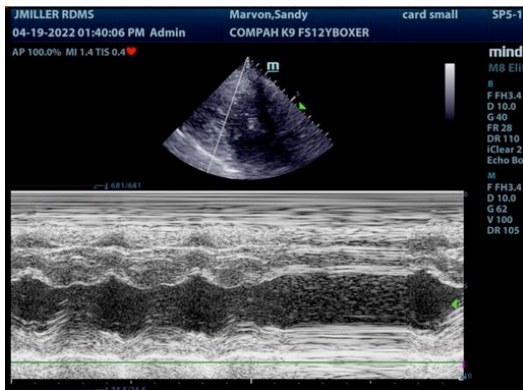
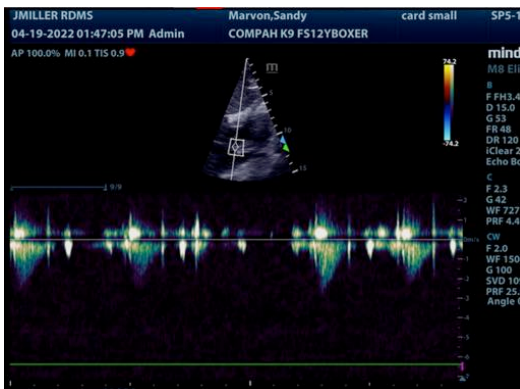
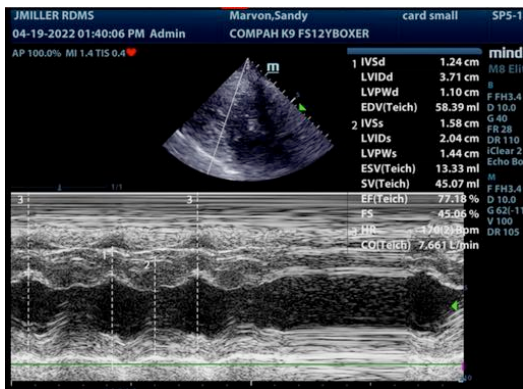
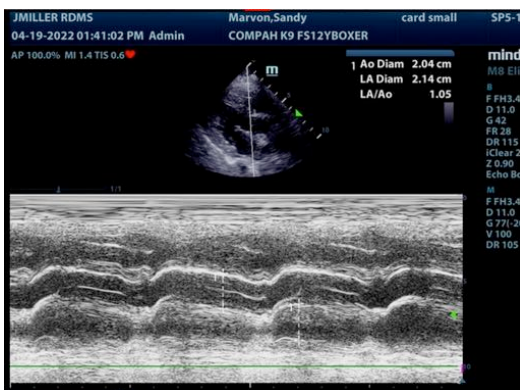
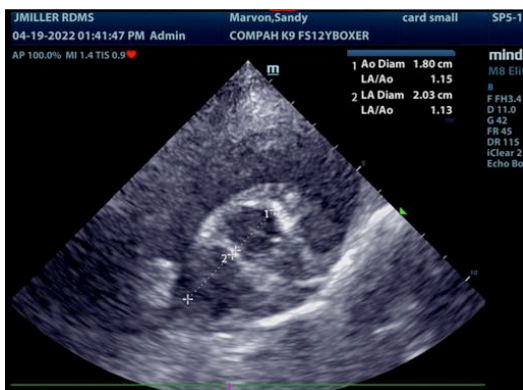
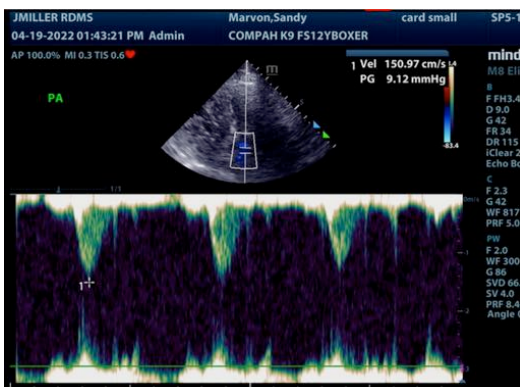
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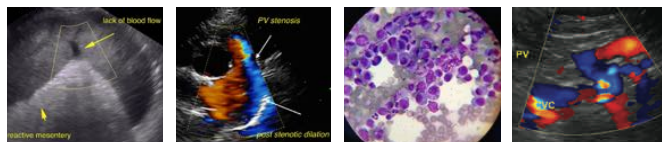
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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