



PATIENT PRESENTING CLINICAL SIGNS

Ebbie Heelan Patient with history of Stage B1 valvular disease, compensated, presents for follow up echo and abdominal ultrasound. EKG report recommended cardiac medications. EKG also showed VPCs. Current meds: Tylan, Gabapentin, and liver supplement.

SPECIES Abnormal PE/Chem/CBC/UA Results: Alk. Phos. 204.

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

BREED

Hound X

SEX

Spayed Female

AGE

11 Years

WEIGHT

69 Pounds

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	5.8		1.4	1.9	31	58	NM
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	BELOW	BELOW	BELOW	BELOW
PATIENT	126	1.11	0.62		5.5	4.84	

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Marsh AH

REFERRING VET

Dr. Milwicki

INVOICE

38454

DATE

6/7/22

Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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. 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.

Urinary System

The **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection.



PATIENT

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Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present. The region of the trigone and visible pelvic urethra 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. 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 6.77 cm.

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Hound X

Adrenal Glands

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 2.8 cm x 1.0 cm at the cranial pole and 0.49 cm at the caudal pole. The left adrenal gland measured 2.64 cm x 0.72 cm at the caudal pole and 0.55 cm at the cranial pole.

SEX

Spayed Female

Spleen

The **spleen** revealed mixed hypoechoic nodules and masses, measuring up to 3.0 cm with areas of cavitation. Strongly suggestive for hemangiosarcoma or similar neoplasia.

AGE

11 Years

Liver

WEIGHT

69 Pounds

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. 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. 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.

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Pancreas

A separate hypoechoic, undifferentiated mid abdominal mass was noted in the region of the **pancreas**, measuring 4.0 cm. Pericapsular inflammation present.

REFERRING VET

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ULTRASONOGRAPHIC FINDINGS

- Mitral insufficiency and moderate left atrial enlargement – advanced stage B2 valvular disease.
- Splenic and abdominal neoplasia – likely pancreatic origin or seeding from the spleen.
- Unremarkable liver

INVOICE

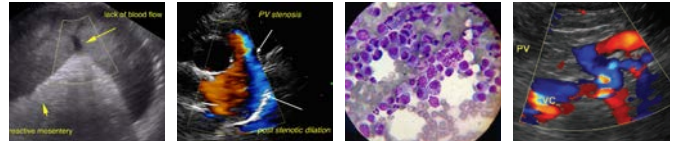
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Surgical approach could be taken in this patient. However, splenectomy and removal of the separate undifferentiated mass in the region of the pancreas would be necessary. Clean resection of the underlying pathology will be challenging. Concurrently, there is moderate anesthetic risk, given the left atrial enlargement and valvular disease.

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For the heart, recommend Pimobendan at 0.3 mg/kg BID, ACE inhibitor 0.5 mg/kg SID with progression to BID, and Spironolactone 1-2 mg/kg BID. If the patient must undergo surgery directly, Lasix at 2-3 mg/kg IV 30 minutes prior to surgery recommended. Rapid surgical intervention warranted. Chest radiographs warranted to assess for metastatic disease if not already performed. Some progression has occurred from the prior echocardiogram.

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Hemangiosarcoma suspected. Two separate comorbidities with splenic hemangiosarcoma and pancreatic abscess or carcinoma possible. Prognosis is extremely guarded.

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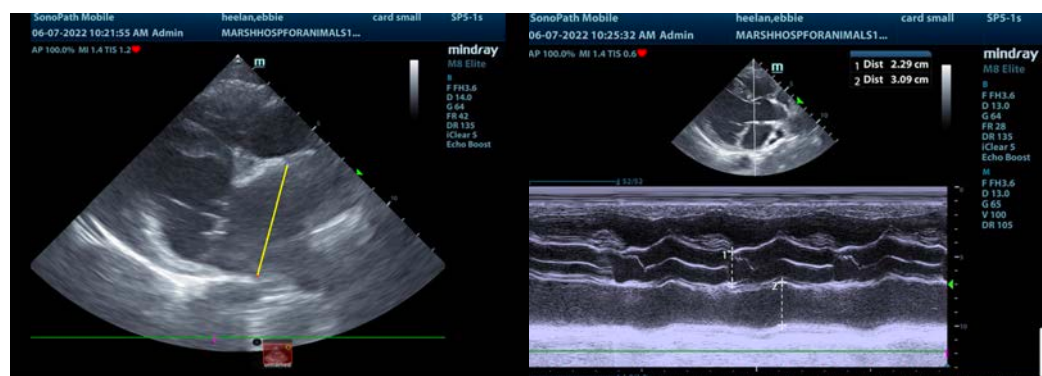
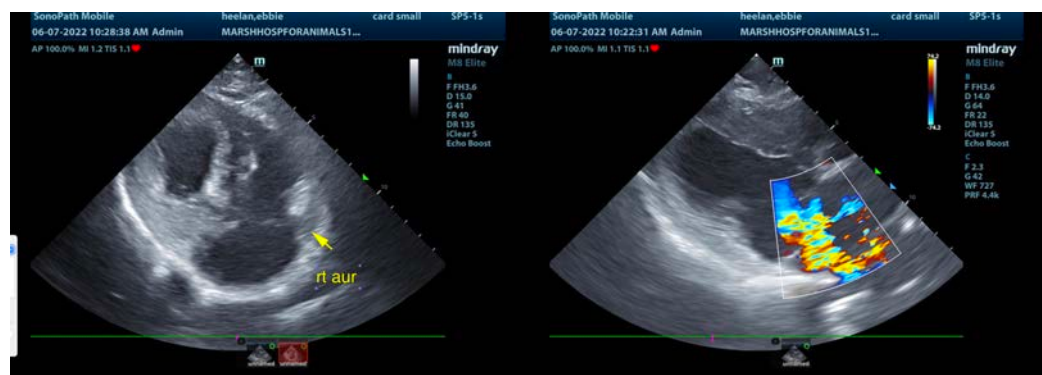
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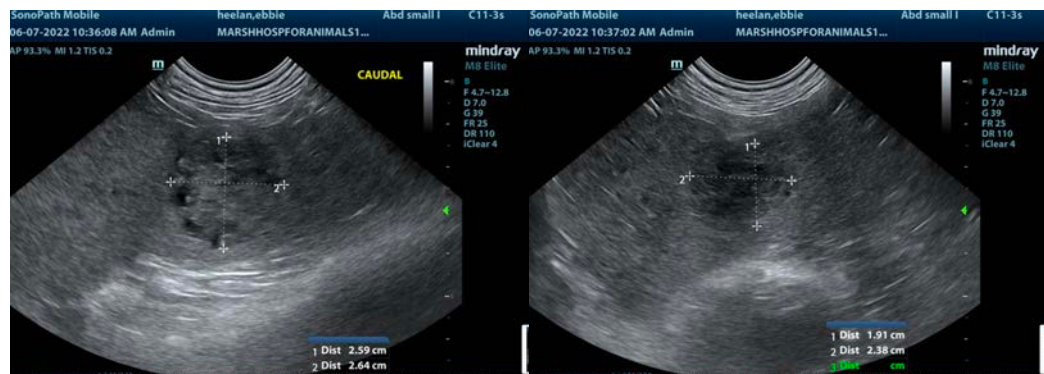
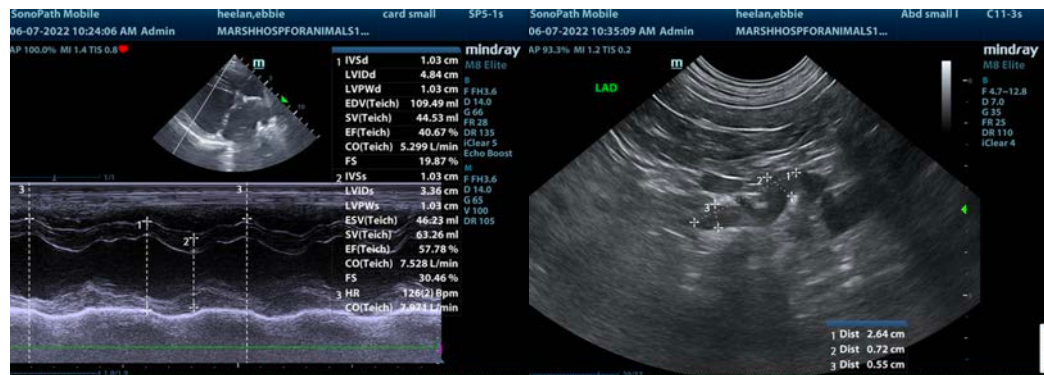
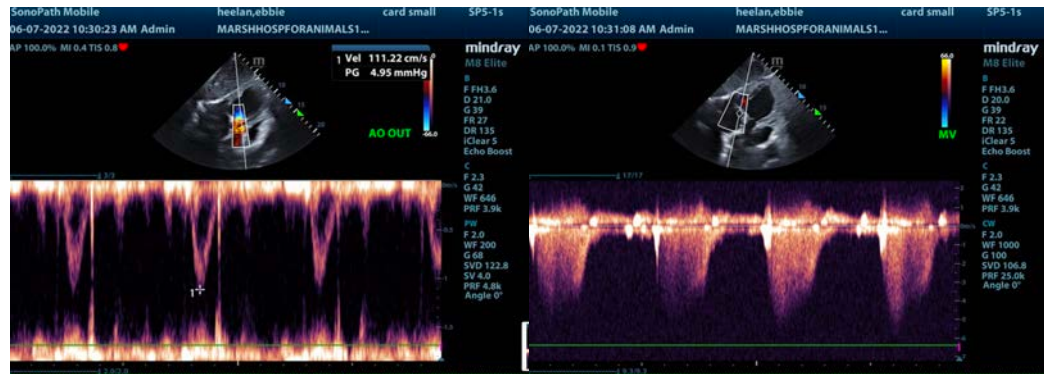
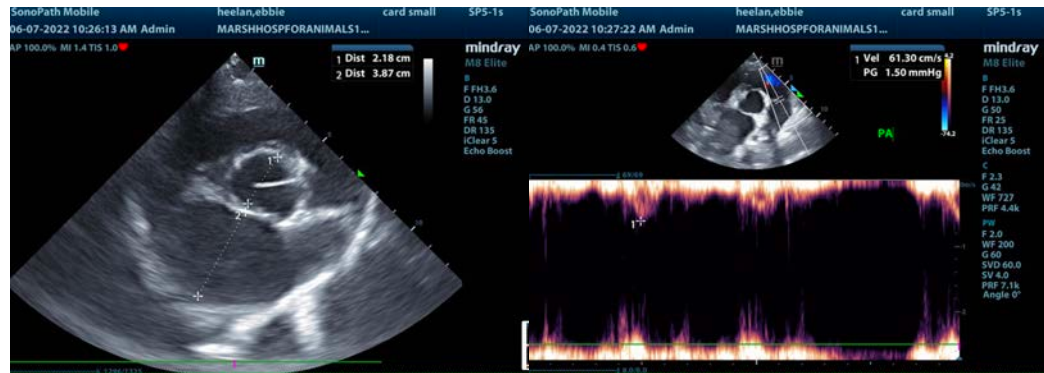
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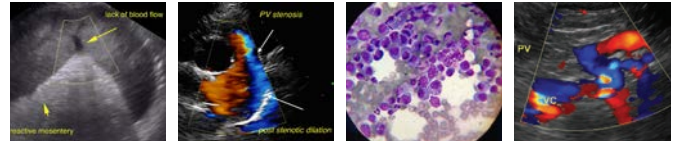
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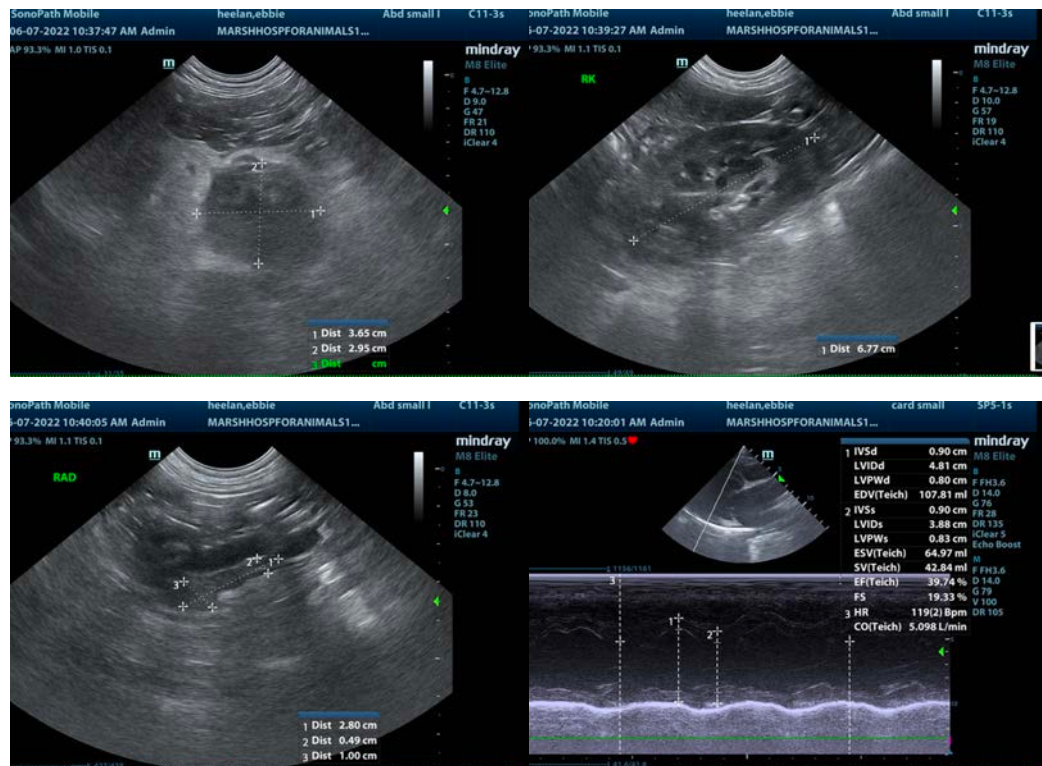
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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