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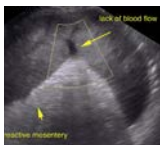
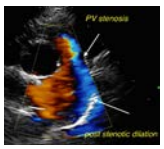
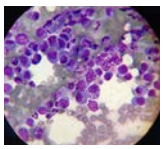
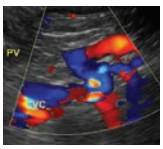

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1-800-838-4268 info@sonopath.com

PATIENT
Brady Dawson

SPECIES
Canine

BREED
German Shepherd x

SEX
Neutered Male

AGE
12

WEIGHT
80

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Torch River Vet Mobile

HOSPITAL NAME
Torch Lake Vet Clinic

REFERRING VET
Dr. A Waffle

INVOICE
44418

DATE
7/27/23

PRESENTING CLINICAL SIGNS

History of L adrenal tumor. Presented for acute collapse. Unable to use pelvic limbs.

Abnormal PE/Chem/CBC/UA Results: Injected MM; Scleral injection; HR 200; BP 200/106 Suspect catecholamine release

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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	Up to 1.6	28-40	40-100	<0.6
PATIENT			NM	1.0	45		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	BELOW	BELOW	BELOW	BELOW
PATIENT		1.64	0.5		3.2	2.7	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial mitral insufficiency noted on spectral doppler assessment. 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. **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. Arrhythmogenic activity noted.

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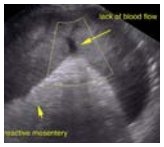
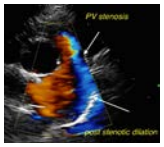
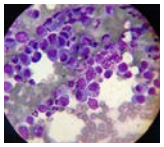
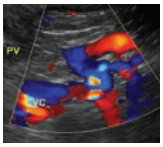

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Urinary System

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 were noted. Ureteral papillae were normal. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 8.3 cm. The left kidney measured 7.7 cm. Occasional cortical cysts noted in the kidneys.

Adrenal Glands

The **left adrenal gland** was mildly enlarged and irregular, measuring 3.68 cm x 1.37 cm at the cranial pole and 0.80 cm at the caudal pole.

The region of the **right adrenal gland** was imaged, no evident pathology.

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.

Liver

The **liver** presented multifocal hyperechoic nodules. The gallbladder was unremarkable.

Gastrointestinal

A minor amount of non-shadowing, non-obstructive ingesta was noted in the **stomach**. Transit of chyme into the small intestine was normal. Curvilinear patterns were maintained throughout the GI tract. No evidence of pathology. 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.

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.

Free Abdomen

Large amount of abdominal fat noted.

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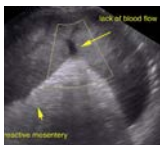
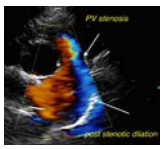
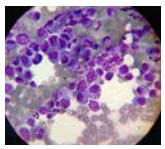
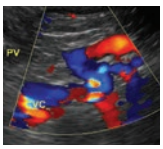

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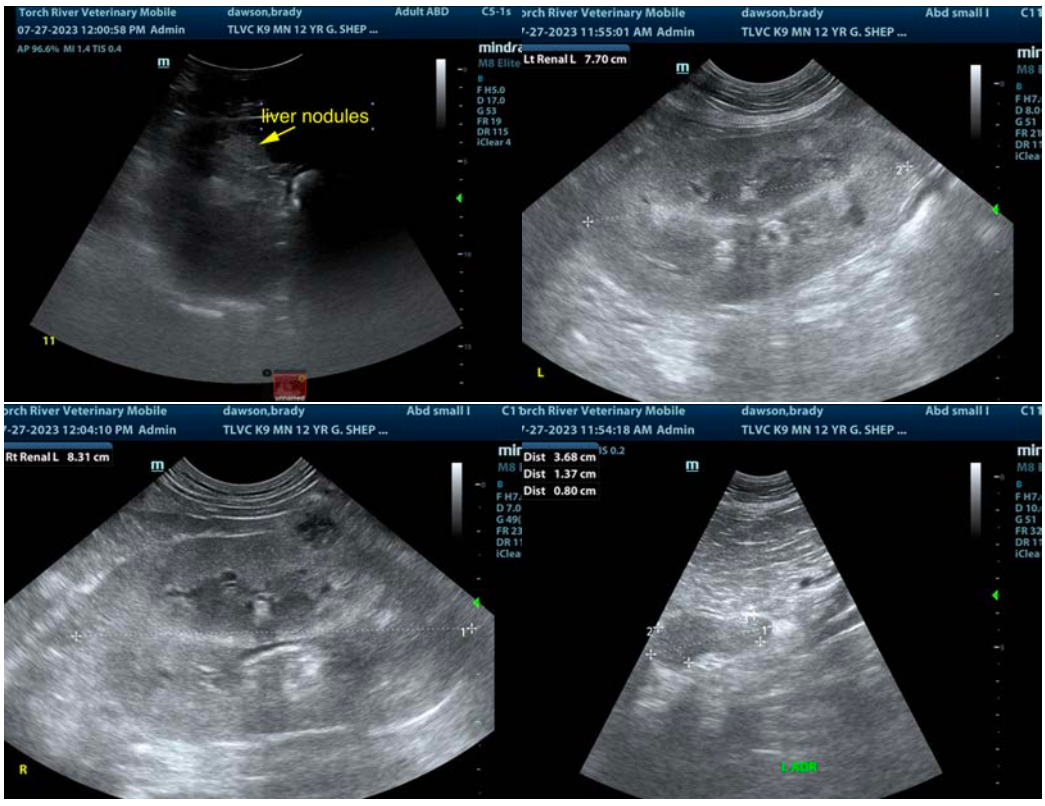
ULTRASONOGRAPHIC FINDINGS

- Volume contracted heart with arrhythmogenic activity
- Undefined hepatic nodules
- Chronic renal changes with cortical cysts
- Irregular left adrenal gland, possible pheochromocytoma
- Full stomach
- Large amount of abdominal fat

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The heart is likely effector organ owing to volume contraction. I'm concerned that the left adrenal gland may represent pheochromocytoma. Urine catecholamine indicated. Anti-hypertensives warranted. IV fluid support warranted. Eventual FNA of the liver nodules indicated. If sedation is to employed for FNA of the liver nodules, then further imaging of the right adrenal and left adrenal from the right approach indicated to assess for caval invasion.



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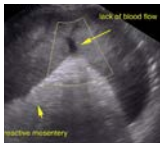
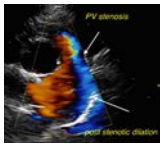
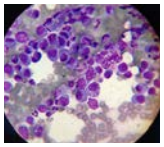
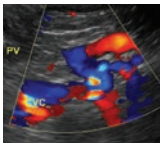

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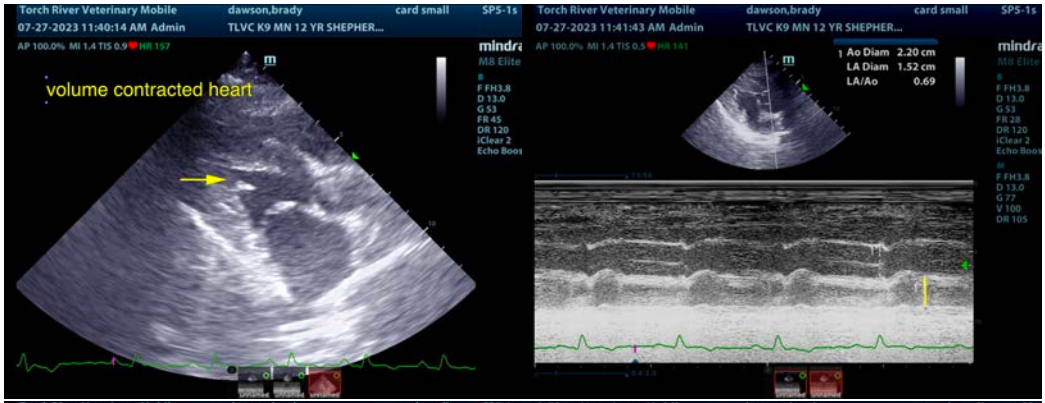

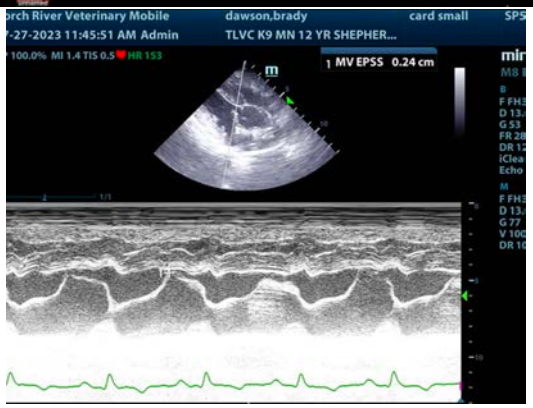

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

info@SonoPath.com