


PATIENT

Douglas Capiello

PRESENTING CLINICAL SIGNS

Persistent elevated liver values and ECG revealed supraventricular ectopic beats. Current Meds: Thyro-tabs 0.2mg bid, Torbutrol

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: Chl 107; ALT 443; ALP 398; CK 256; USG 1.037

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART
BREED

Chihuahua

SEX

MN

AGE

11yr

WEIGHT

16lb

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	5.0		1.2	1.4	49.5	83.2	0.29
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	128	1.0	0.64		2.6	2.2	

INTERPRETED BY

 R. McKenzie Daniel,
 DVM, DABVP
 (Canine and Feline)

IMAGING PERFORMED BY

Shari Reffi CVT

HOSPITAL NAME

 Smithfield Animal
 Hospital

REFERRING VET

Dr. Adam Boe

Cardiac Presentation

The echocardiogram in this patient demonstrated normal left atrial size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal mitral valve leaflets presented mild thickening consistent with endocardiosis. Doppler indicated mild eccentric 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. No evidence of significant arrhythmia.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or

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PATIENT	sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.
Douglas Capiello	
SPECIES	Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.1 cm in length. The right kidney measured 4.4 cm in length.
Canine	
BREED	The area of the aortic trifurcation was free of pathology.
Chihuahua	The area of the residual prostate appeared normal and free of pathology.
	Adrenal Glands
SEX	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.52 cm width at the caudal pole and 1.4 cm length. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.47 cm width at the caudal pole and 1.4 cm length.
MN	
AGE	Spleen
11yr	The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.
WEIGHT	Liver/Gallbladder
16lb	The liver presented subjective mild enlargement. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with primarily anechoic luminal content and mild non-organized sediment. The cystic and common bile ducts were normal.
INTERPRETED BY	Gastrointestinal
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.
IMAGING PERFORMED BY	The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.
Shari Reffi CVT	
HOSPITAL NAME	Normal visible colon wall layers were present with apparent formed feces in lumen.
Smithfield Animal Hospital	
REFERRING VET	Pancreas
Dr. Adam Boe	The pancreas base and right pancreatic limb was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.
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Free Abdomen

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

SPECIES

Canine

ULTRASONOGRAPHIC FINDINGS

BREED

Chihuahua

- Compensated chronic mitral valve disease (ACVIM B1)
- Mild chronic renal changes
- Non-specific sonographically benign hepatopathy-vacuolar hepatopathy, inflammatory/immune mediated disease, hematopoiesis, hyperplasia, fibrosis or other hepatopathy possible. Neoplastic criteria considered unlikely.
- Remodeled pancreas- patient/ age related variant, remodeling owing to previous inflammatory episode or mild to chronic pancreatitis possible.
- Gallbladder debris (non-mucocele).

SEX

MN

AGE

11yr

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, there is no overt evidence of significant cardiac abdominal visceral pathology as a definitive cause of the patient's clinical signs.

WEIGHT

16lb

The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is relatively low at this time and, without current clinical signs, indicates that medical therapy is not required at this stage. Prognosis at this stage is variable and serial sonographic monitoring is recommended with a recheck echocardiogram in 6 months, sooner if clinical signs suggestive of heart disease develop.

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

Assuming normal clotting status a hepatic FNA for screening cytology could be considered for further assessment. Hepatosupportive medications such as Denamarin and Ursodiol may prove beneficial. Assessment for evidence of cranial abdominal/subxiphoid discomfort on palpation or clinical signs which may allude to low grade pancreatitis is recommended. Correlation with a spec cPL could be considered if clinically indicated.

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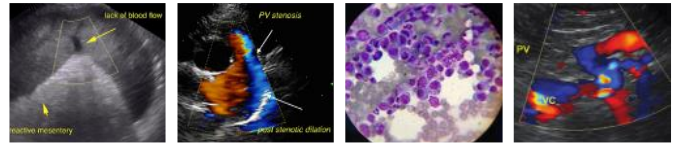
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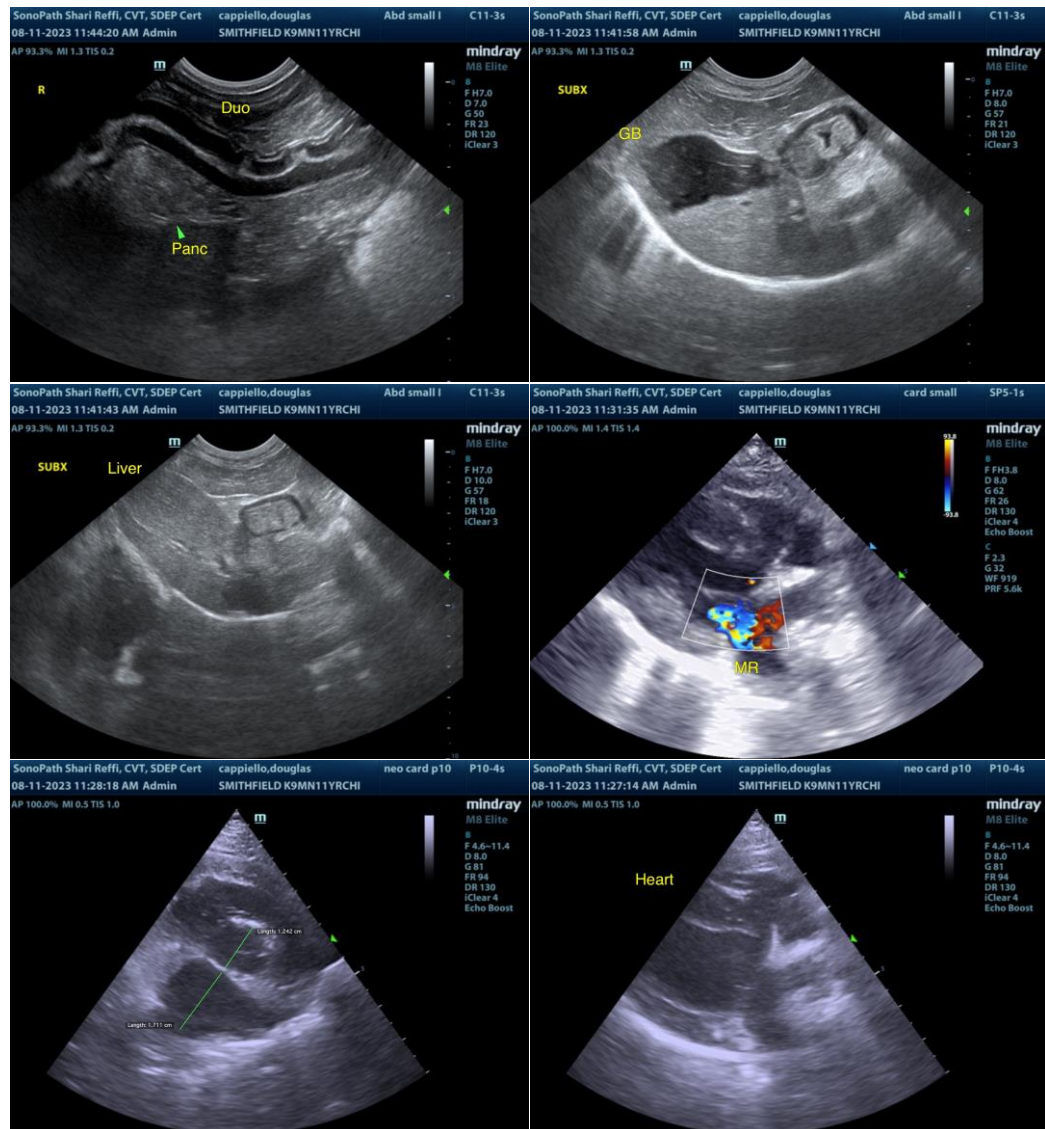
Dr. Adam Boe

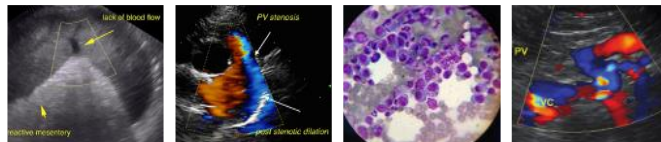
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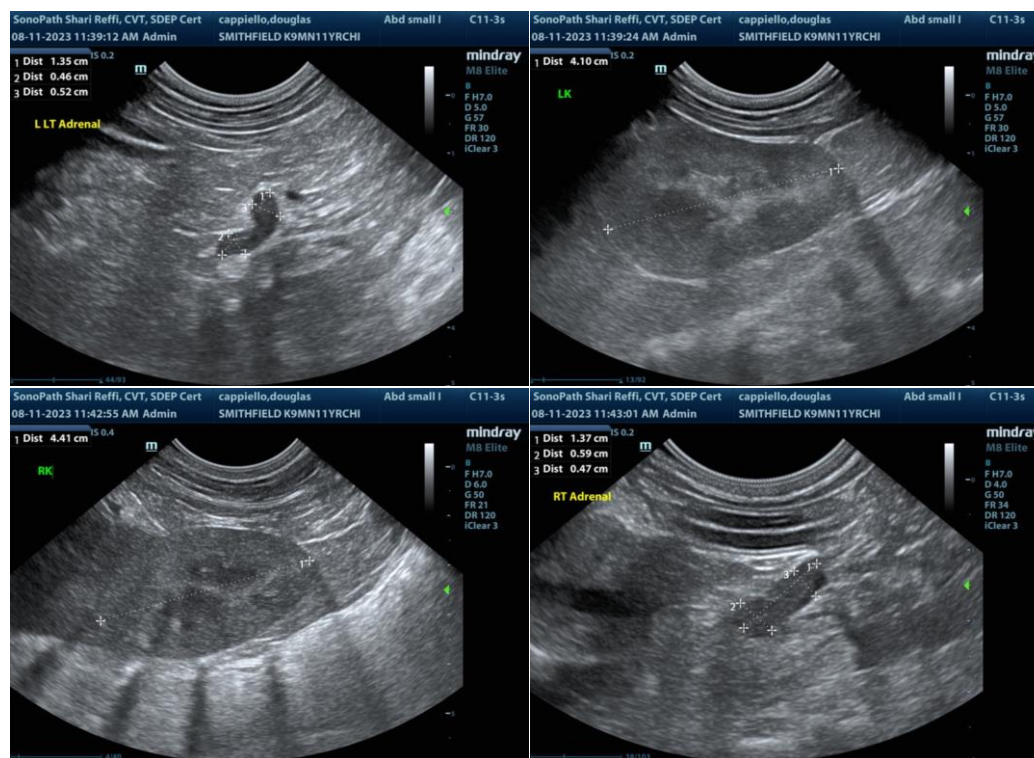
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WEIGHT

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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.

INTERPRETED BY

R. McKenzie Daniel,
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(Canine and Feline)

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.

IMAGING PERFORMED BY

Shari Reffi CVT

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