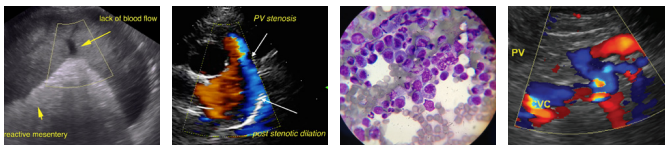
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Bella Szollosy

SPECIES
Canine

BREED
Boxer

SEX
Spayed Female

AGE
9 Years

WEIGHT
58.8 Pounds

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

IMAGING PERFORMED BY
Diane McFadden

HOSPITAL NAME
Newton Vet Hospital

REFERRING VET
Dr. Barron

INVOICE
35531

DATE
2/9/22

PRESENTING CLINICAL SIGNS

grand mal seizure today of approx 30 minutes duration; severe hematuria. On a joint supplement. Abnormal PE/Chem/CBC/UA Results: lymphopenia; glu 144, ALT 147, BUN 33.2, Crea 1.9, K + decreased 2.9

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	<1.6	28-40	40-100	<0.6
PATIENT		<2.0	NM	1.21	40.5	73	0.25
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	149	1.25	0.8		3.5	3.2	

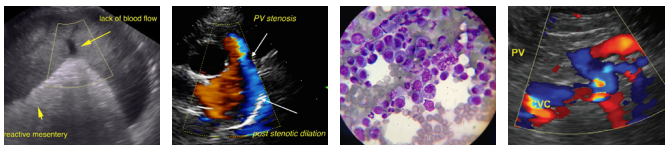
Cardiac Presentation

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. 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. Minor TV insufficiency present on color doppler assessment. 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. No evidence of arrhythmogenic disease or activity.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with moderate non-dependent to swirling particulate sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

The area of the aortic trifurcation was free of pathology.



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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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 6.4 cm. The right kidney measured 6.2 cm.

Adrenal Glands

The left adrenal gland was mildly prominent in size, exhibiting intact yet mild asymmetrical capsule contour. Non-homogeneous parenchyma noted, exhibiting potential for subtle to pinpoint areas of possible emerging parenchymal mineralization. No overt evidence of vascular invasion. The left adrenal gland measured 3.4 cm length x 0.96 cm at the caudal pole. The right adrenal gland measured 2.0 cm length x 0.56 cm at the caudal pole.

Spleen

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.

Liver

The liver presented normal in size. The hepatic parenchyma revealed diffuse reduced echogenicity compared to the spleen and renal cortical parenchyma with a mild coarse echotexture. Increased portal vein prominence was evident. The capsule of the liver was normal in margination. Distinct masses or nodules were not evident. The hepatic and portal vasculature were normal in appearance. The gallbladder was non-distended in size with primarily anechoic luminal content. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with primarily anechoic fluid was present. Gastric body wall measured 0.65 cm.

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. Jejunum wall measured 0.45 cm.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

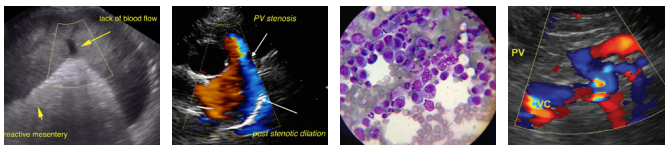
The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

Free Abdomen

No omental masses, lymphadenopathy or peritoneal effusion.

ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function – no evidence of arrhythmia.
- Minor TR – estimated pulmonary pressure gradient not consistent with clinical pulmonary hypertension.
- Moderate urinary bladder sediment – suspect cellular debris given reported hematuria.



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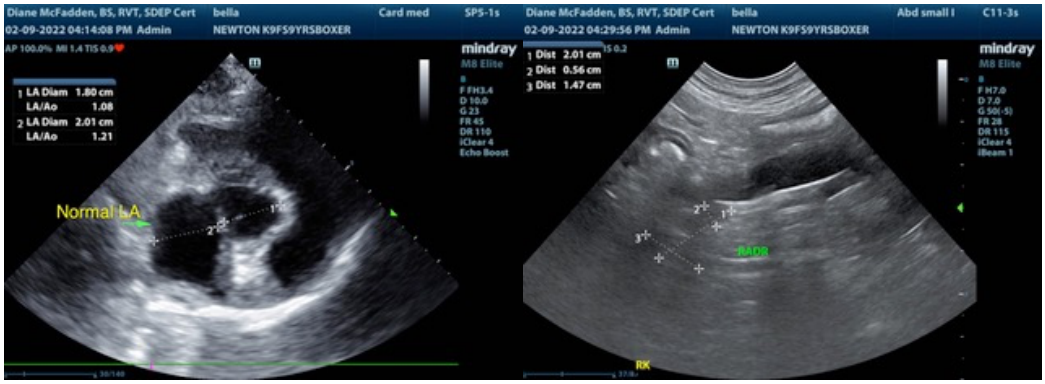
- Mild non-specific chronic renal changes, no overt pyelonephritis
- Prominent yet non-specific left adrenal gland exhibiting non-homogeneous parenchymal, potential subtle to emerging areas of pinpoint mineralization
- Mild hypoechoic liver – reactive hepatopathy, emerging acute hepatitis (viral, bacterial, dysbiosis, hepatotoxic insult), occult neoplasia possible yet thought less likely.
- Mild hypomotile stomach, sonographically unremarkable small bowel

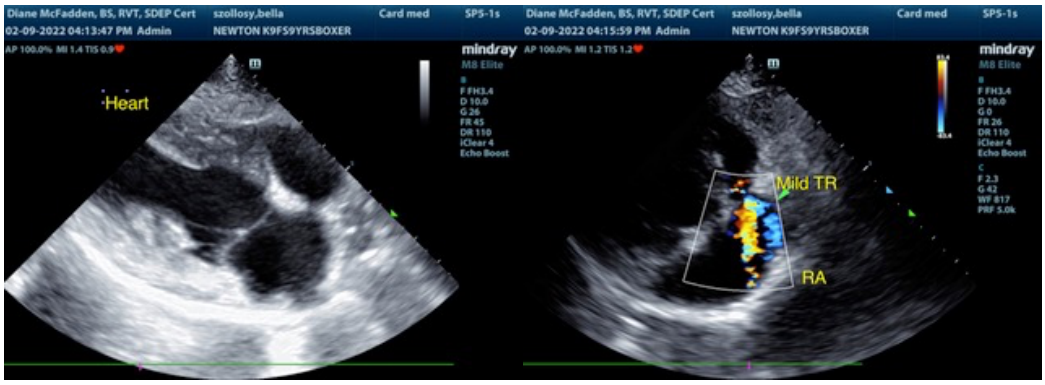
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No overt evidence of structural or functional cardiomyopathy including no evidence of systolic dysfunction, clinical pulmonary hypertension, arrhythmogenic disease, or overt neoplasia. No indication for cardiac medications.

The prominent left adrenal gland is of unclear clinical significance. Considerations may include functional versus non-functional adenomatous change, mild benign hyperplasia, while the possibility of emerging neoplasia such as pheochromocytoma, adenocarcinoma may be possible. Assessment and monitoring of systemic blood pressure for evidence of hypertension warranted.

Monitoring of ALT levels suggested for evidence of progression. If progressive ALT elevation, further assessment of the liver may include (assuming normal clotting status) ultrasound guided FNA for screening cytology, bile acid testing, +/- Leptospirosis titers/PCR if clinically indicated. Intracranial and abdominal CT for further assessment of the left adrenal gland may be considered pending clinical response to supportive care and additional diagnostics.





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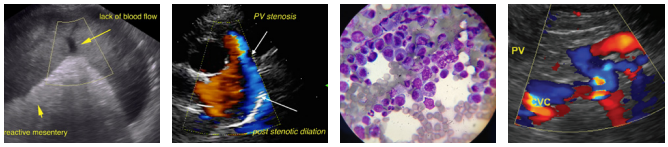

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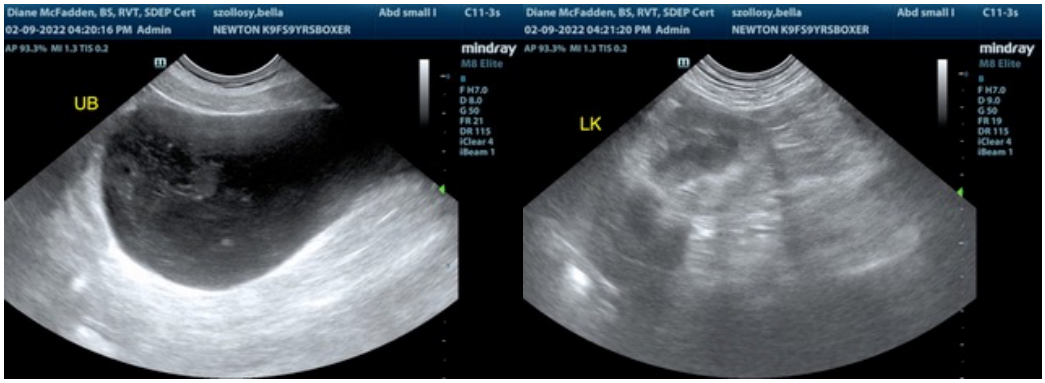

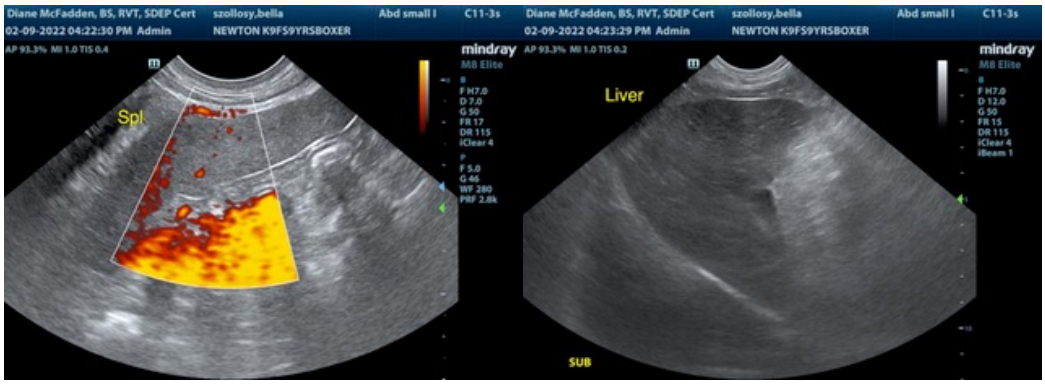

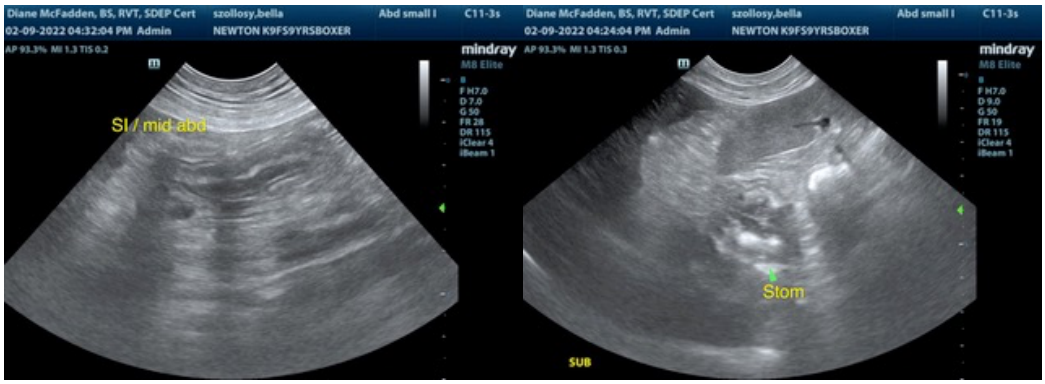

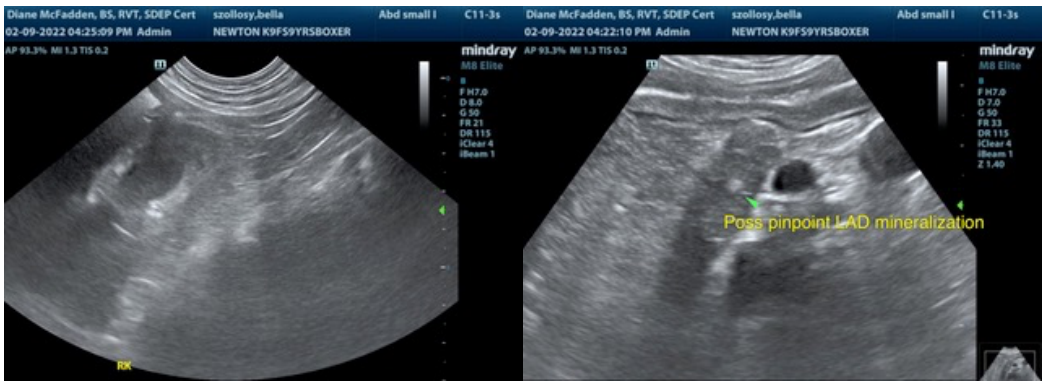

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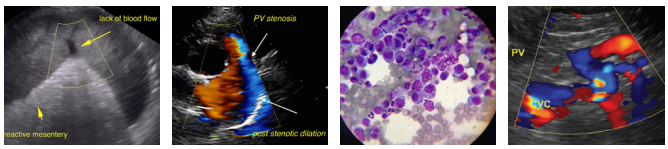

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com