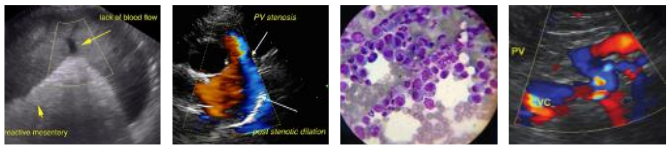
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Boots Schenker

SPECIES
Feline

BREED
DSH

SEX
FS

AGE
6yr

WEIGHT
13.4lb

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

IMAGING PERFORMED BY
Shari Reffi CVT

HOSPITAL NAME
Newton Vet

REFERRING VET
Dr. Colyer

INVOICE
13198ag

DATE
03/17/2023

PRESENTING CLINICAL SIGNS

Hyperbilirubinemia, elevated ALP. Current meds: Cerenia, Metronidazole, Ampicillin.

Abnormal PE/Chem/CBC/UA Results: ALP 2935 (90H), Tbili 21.3(0.5H), ALT 266 (100H)

ULTRASONOGRAPHIC EVALUATION OF THE ABDOMEN AND HEART

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		202	0.48	1.68	0.42	30	60
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE** (Sisson)	**LA** 2D 4-chamber long axis AS to FW (Sisson) (cm)		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7		<1.6	<1.3	40-60
PATIENT	1.2	1.25	1.3		1.0	0.94	

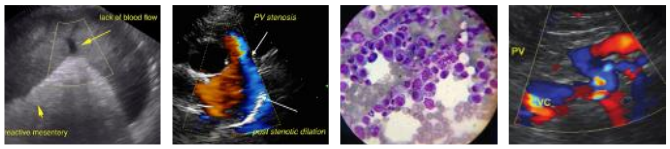
Adapted from June Boon,Veterinary Echocardiography,1998
Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

Cardiac Presentation

The echocardiogram in this patient demonstrated normal left atrial size based on 3 separate LA measurements. The cranial and caudal mitral valve leaflets presented normal linear structure and kinetics. The left ventricle presented normal thicknesses with linear contour and was not dilated nor restricted. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. The contractility of the ventricular walls was borderline subnormal as evidenced by the fractional shortening measurement and subjective evaluation of the different regions and angles of the myocardium. The left ventricular outflow tract demonstrated normal laminar flow and subjective structural integrity. Normal measured LVOT. 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 and kinetics. 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). Normal measured RVOT. No visible pericardial or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial mediastinum and pericardial regions were free of masses in the visible window. Normal HR and rhythm.

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 mild non-dependent particulate sediment. The sediment may indicate cellular debris / protein, crystalline debris, lipid, or mucus. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.



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Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 3.8 cm in length. The right kidney measured 4.2 cm in length.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.37 cm width. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.46 cm width.

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/Gallbladder

The liver was moderate to markedly enlarged with asymmetrical to rounded swollen capsule contour and generalized uniform hyperechoic parenchyma. Normal vascular volume. No masses or nodules noted. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content with mild non-organized echogenic debris. The common bile duct was indistinctly visualized without obstructive criteria.

Gastrointestinal

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.

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.

Normal visible colon wall layers were present with strongly shadowing formed feces in lumen and possible colonic distention. Potential for mild constipation criteria possible.

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, overt lymphadenopathy or peritoneal effusion was present.

Increased amount of intra-abdominal fat was noted.

ULTRASONOGRAPHIC FINDINGS

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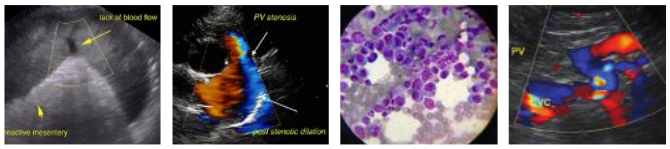

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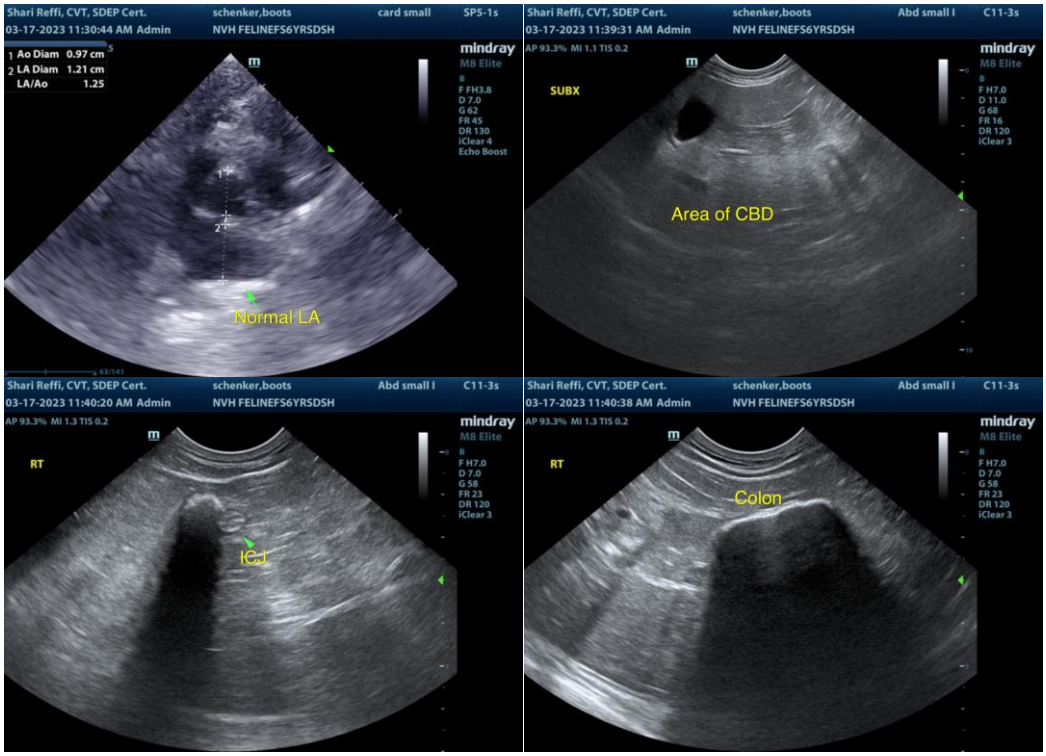
- Normal structure and function with adequate yet subjective borderline subnormal LV contractility-patient variant, systemic disease may present in this manner assuming no sedation. HCM/DCM criteria was not met.
- Hepatomegaly exhibiting parenchyma hyperechogenicity-vacuolar hepatopathy, inflammatory disease, lipidosis, infiltrative neoplasia all potentials.
- Mild gallbladder debris, unremarkable CBD-no overt post obstructive criteria.
- Sonographically unremarkable GI tract/pancreas.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assuming normal clotting status, using vit K premed and using a 25g needle, a hepatic FNA for screening cytology is warranted for further assessment. Hepatosupportive medications such as Denamarin and Ursodiol +/- empirical therapy for cholangiohepatitis or lipidosis if clinically indicated would be reasonable.

If the patient recently or currently is inappetent a GI panel to include PLI/TLI/Cobalamin/Folate is recommended to assess for occult intestinal or pancreatic disease as a contributing factor.

No indication for cardiac medications



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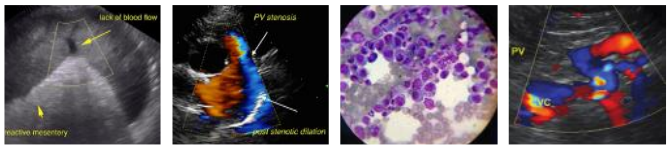

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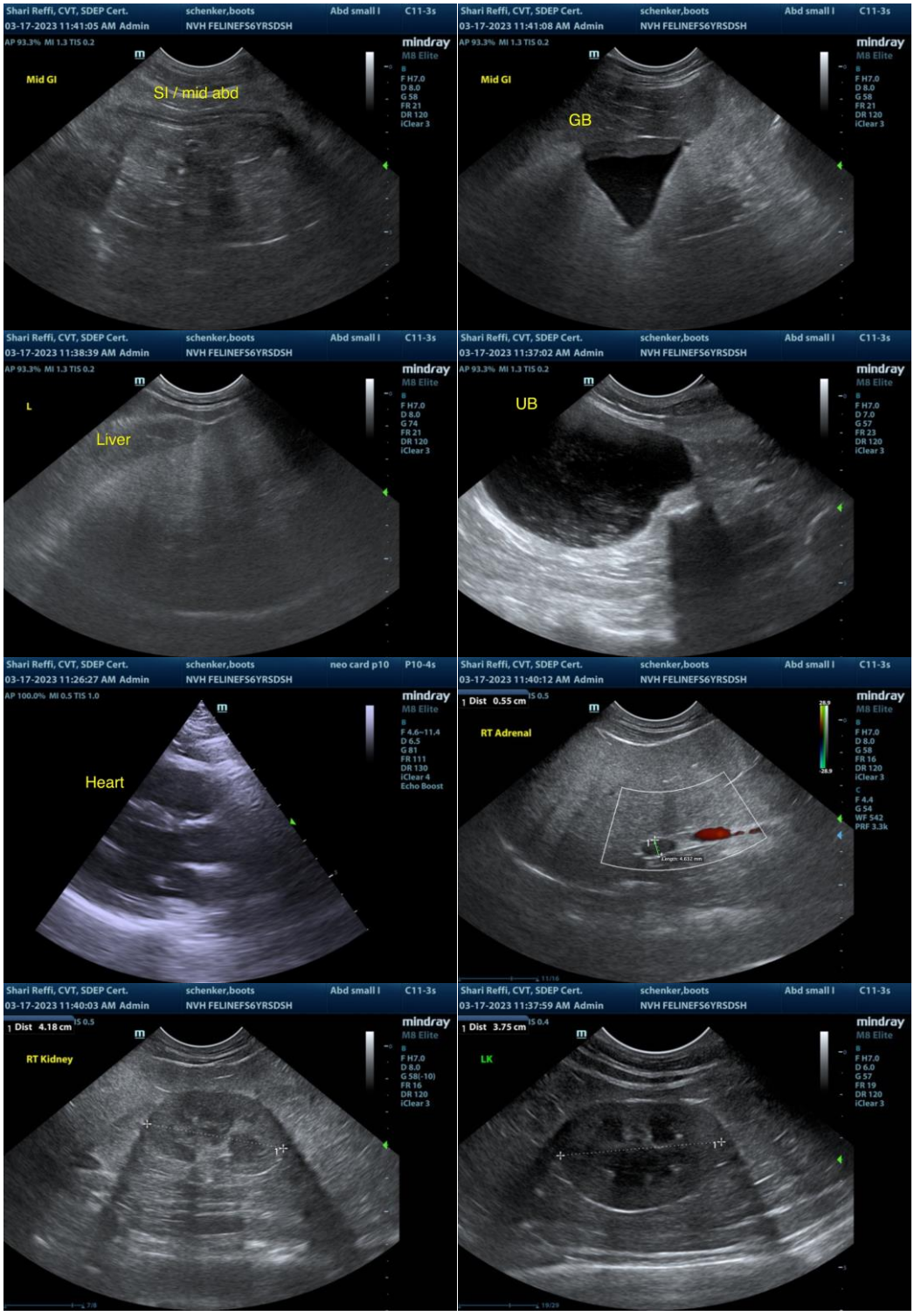
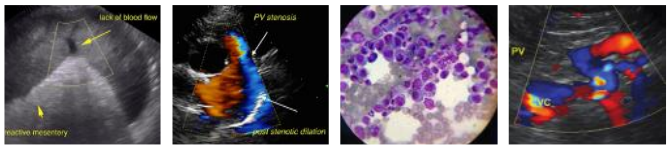


The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I



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can be of any further assistance, please contact me.

R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)
mac.daniel@sonopath.com