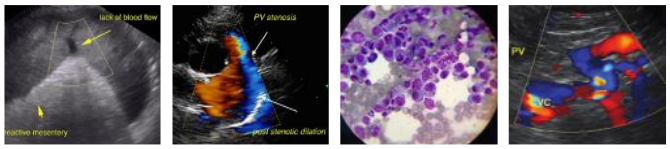
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Kiernan Fischer

SPECIES
Feline

BREED
Manx

SEX
MN

AGE
6yr

WEIGHT
11.2lb

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

IMAGING PERFORMED BY
Diane McFadden

HOSPITAL NAME
Sova Animal Hospital

REFERRING VET
Dr Sova

INVOICE
13623ag

DATE
04/28/2023

PRESENTING CLINICAL SIGNS

2/6 murmur, nornal rhythm, please assess for anesthetic procedure. prior diagnosis was flow murmur. check liver. On prednisolone 5mg x 1/4 tab sid

Abnormal PE/Chem/CBC/UA Results: ALT 183; USPG 1.050

ULTRASONOGRAPHIC EXAMINATION 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		NM	0.65	1.6	0.65	51	84

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	1.3	1.4	1.6	1.3	0.1	

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 left ventricular wall exhibited borderline to mild irregular thickening including focal mild basilar septal thickening. Diffuse mild hyperechoic endocardium consistent with fibrosis and ventricular remodeling was present. Mildly remodeled to prominent papillary muscles were noted. The right ventricle was subjectively normal in size and morphology. No left atrium enlargement. The right atrium was normal in size. Normal measured RVOT velocity was present. No overt evidence of systolic anterior motion (SAM) of the mitral valve. Mild eccentric MR was present on Doppler. Mild TR was present on Doppler. No other obvious valvular insufficiencies. Normal measured LVOT velocity with subjective mild turbulent/dynamic LV outflow was present on Doppler. No evidence of pericardial or pleural effusion was present. No evidence of cardiac tumors.

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 sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

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 4.2 cm in length. The right kidney measured 4.2 cm in length.

The area of the aortic trifurcation was free of pathology.

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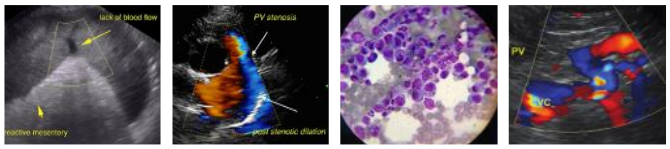

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Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.35 cm width. No pathology in the area of the right adrenal gland.

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 subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

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 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, overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Borderline to mild remodeled left ventricle with mild prominent papillary muscle.
- Normal left atrium.
- Mild MR/TR.
- Low grade hepatopathy.
- Sonographically unremarkable gallbladder/common bile duct.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cardiac presentation was suggestive of hypertrophic cardiomyopathy which is a rule out diagnosis once the patient is deemed normotensive and euthyroid. The murmur may be associated with mild eccentric MR or mild turbulent to dynamic LV systolic outflow which is essentially a flow murmur. There is no LA enlargement which indicates that the risk of clinical issues is low. No overt indication for cardiac medications. Serial sonographic monitoring is advised owing to highly variable rates of progression with subclinical cardiomyopathy. No overt anesthetic contraindications assuming normal systemic BP.

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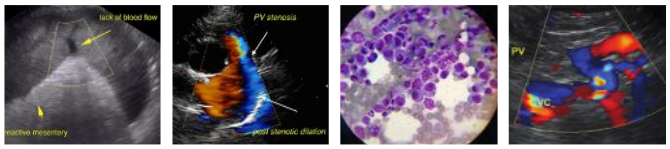

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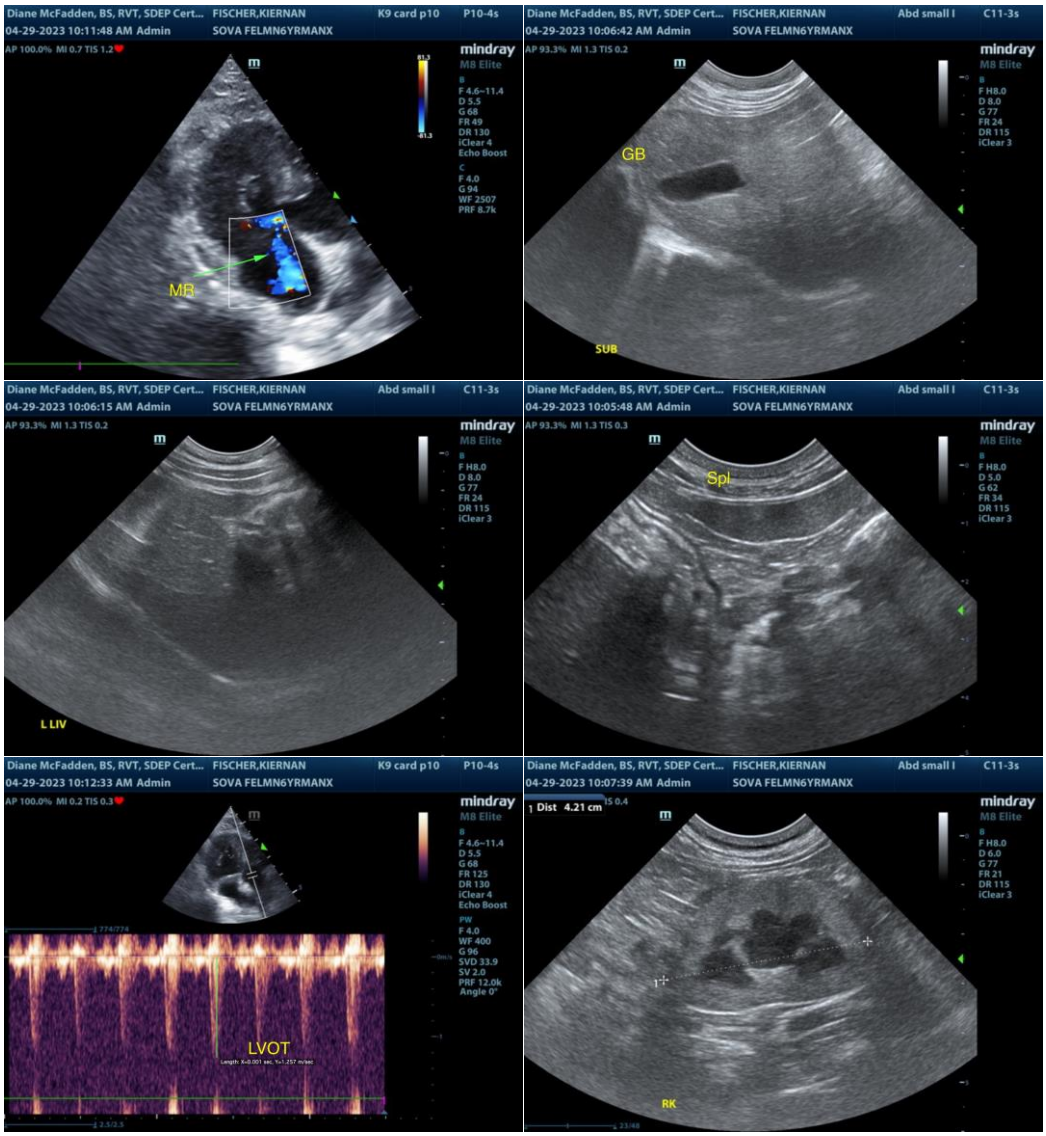
Overall, no overt evidence of significant abdominal visceral pathology. Potential low grade inflammatory hepatopathy is possible given the mild ALT elevation. Hepatosupportive medications such as Denamarin may prove beneficial. No intra-abdominal anesthetic contraindication.

Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.



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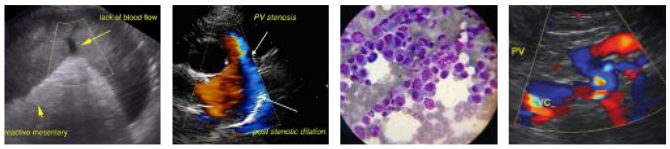

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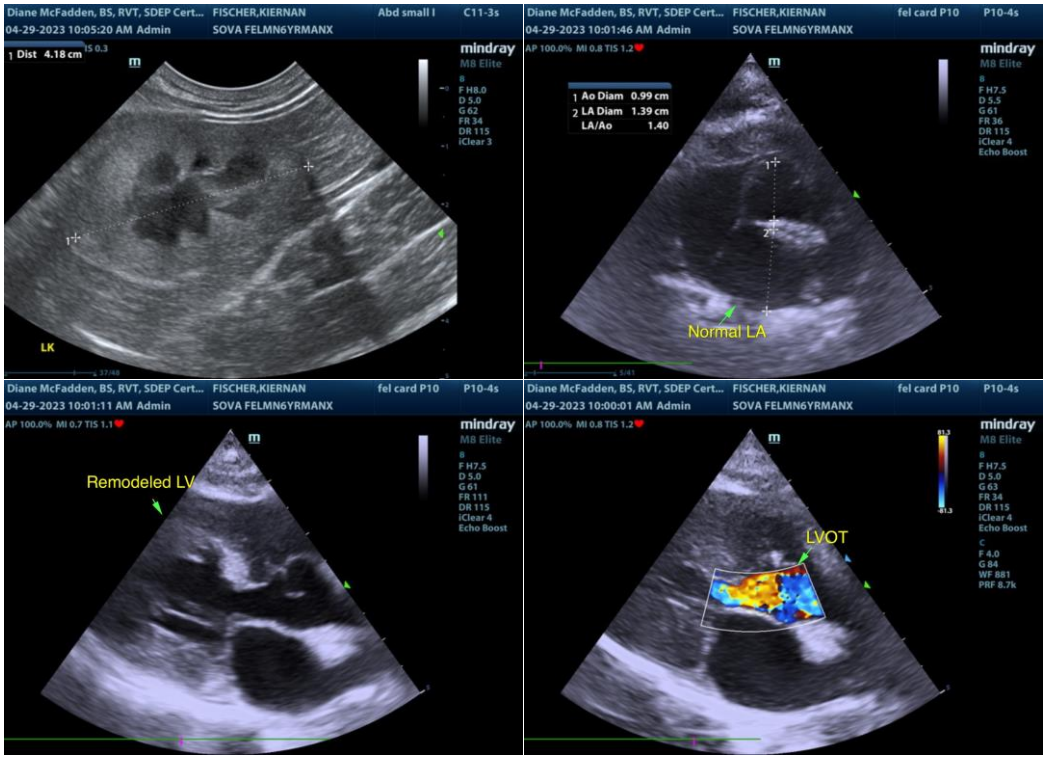

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
mac.daniel@sonopath.com