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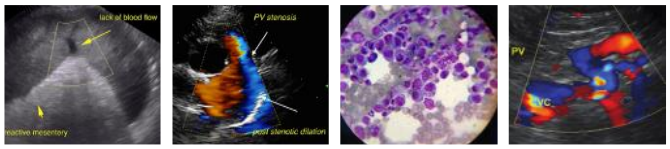


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Ashton Carnevale

SPECIES

Feline

BREED

DLH

SEX

MN

AGE

11yr

WEIGHT

8.1lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Barron

INVOICE

12741ag

DATE

01/23/2

PRESENTING CLINICAL SIGNS

hepatomegaly, previous US 2/2/22 showed pac cyst; heart murmur.

On unasyn, cerenia, humulin N insulin

Abnormal PE/Chem/CBC/UA Results: BUN 63.4, FPL abnormal

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

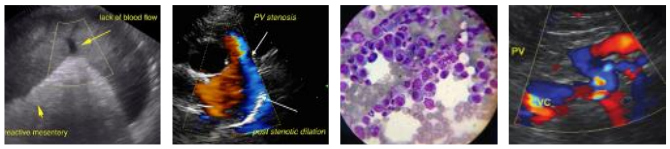
FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		174	0.47	1.75	0.42	53.2	86.8
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE** (Sisson)	**LA** 2D 4-chamber long axis AS to FW (Sisson) (cm)		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**TR** (m/)
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7		<1.6	<1.3	
PATIENT	1.4	1.3	1.4		1.1	1.3	2.4
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. Minor MR present on Doppler. 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 adequate and in normal range for this patient 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. 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. Minor TR present on Doppler. 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 or extra cardiac pathology in the visible planes. The cranial mediastinum and pericardial regions were free of masses in the visible window.

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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Mildly enlarged renal size with asymmetrical margination was present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Mild loss of corticomedullary distinction was also present. The renal medullary volume was subjectively reduced. Mild hydronephrosis with minor fluid extension into the lateral diverticuli was present. The left kidney measured 5.4 cm in length. The right kidney measured 5.4 cm in length. No evidence of renal neoplastic criteria or evidence of post renal obstruction.

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 0.47 cm width. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.69 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 presented mildly enlarged in size. 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 echogenic luminal debris. The proximal common bile duct was mildly dilated and tortuous without overt post hepatic obstruction. The proximal common bile duct dilation measured 0.20 cm width.

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 gastric body wall measured 0.25 cm in width.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio with segmental mildly prominent wall layering within the mid abdominal jejunum. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material. Small intestinal wall measured 0.27 cm in width.

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

Pancreas

The left pancreatic limb was variably prominent to enlarged exhibiting asymmetrical contour and non-homogenous hypoechoic parenchyma extending into the pancreas base. Previously noted progressive potentially encapsulated non-homogenous to cystic mass was present in the area of the right pancreatic limb measuring ~ 5.0 cm in diameter. The fluid within the mass was primarily anechoic with mild echogenic component suggestive of fluid cellularity.

Free Abdomen

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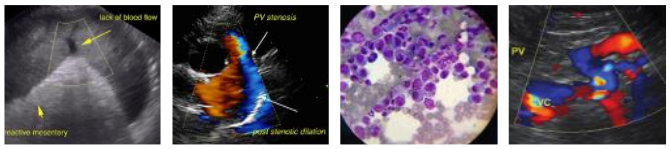

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An intermittent pocket of scant mid abdominal peritoneal effusion was present. No omental masses or overt lymphadenopathy was present.

ULTRASONOGRAPHIC FINDINGS

- Normal cardiac structure/function
- Minor MR/TR
- Mild urinary bladder sediment
- Bilateral chronic nephropathy exhibiting mild bilateral hydronephrosis
- Hepatomegaly-subjectively benign, suspect diabetic hepatomegaly
- Mild gallbladder debris with on-obstructive proximal CBD dilation
- Chronic active pancreatitis pattern with previously noted progressive right pancreatic limb cystic mass/lesion-non-specific, suspect pancreatic abscess/necrosis, potential necrotic granuloma, possibility for neoplasia cannot be excluded
- Intact yet segmental mildly prominent small bowel walls-non-specific
- Intermittent scant peritoneal free fluid

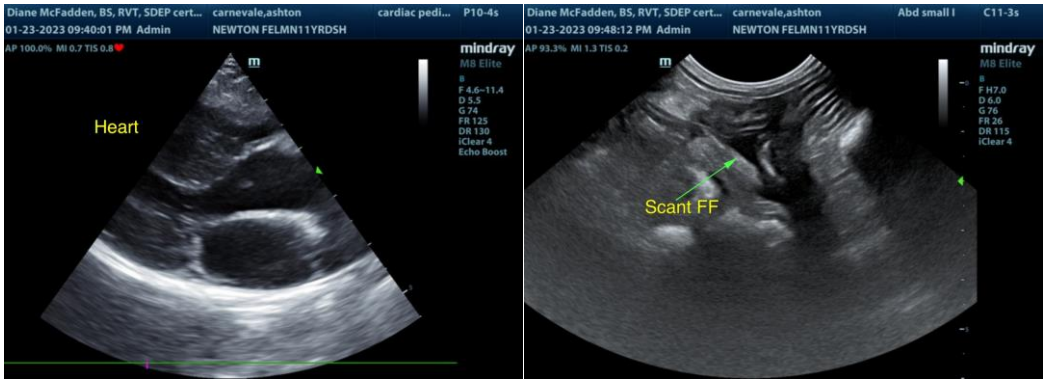
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The hemodynamic effects of the minor MR/TR are not considered clinically significant without evidence of right/left heart chamber enlargement or clinical pulmonary hypertension. No indication for cardiac medications. Probable benign flow murmur.

A urine C/S recommended if evidence of inflammatory cells present on UA or glucosuria is present.

Assuming normal clotting status and using a 25g needle, a right pancreatic limb mass/lesion FNA for screening cytology, fluid analysis +/- C/S is warranted for further assessment.

A hepatic screening FNA cytology as well as serum cobalamin/folate levels to rule out occult disease may be considered especially if evidence of weight loss or diabetic dysregulation.



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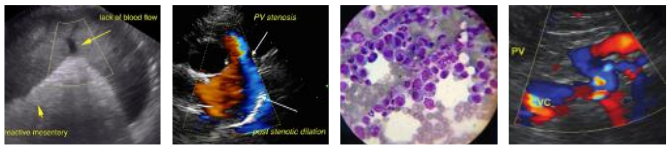

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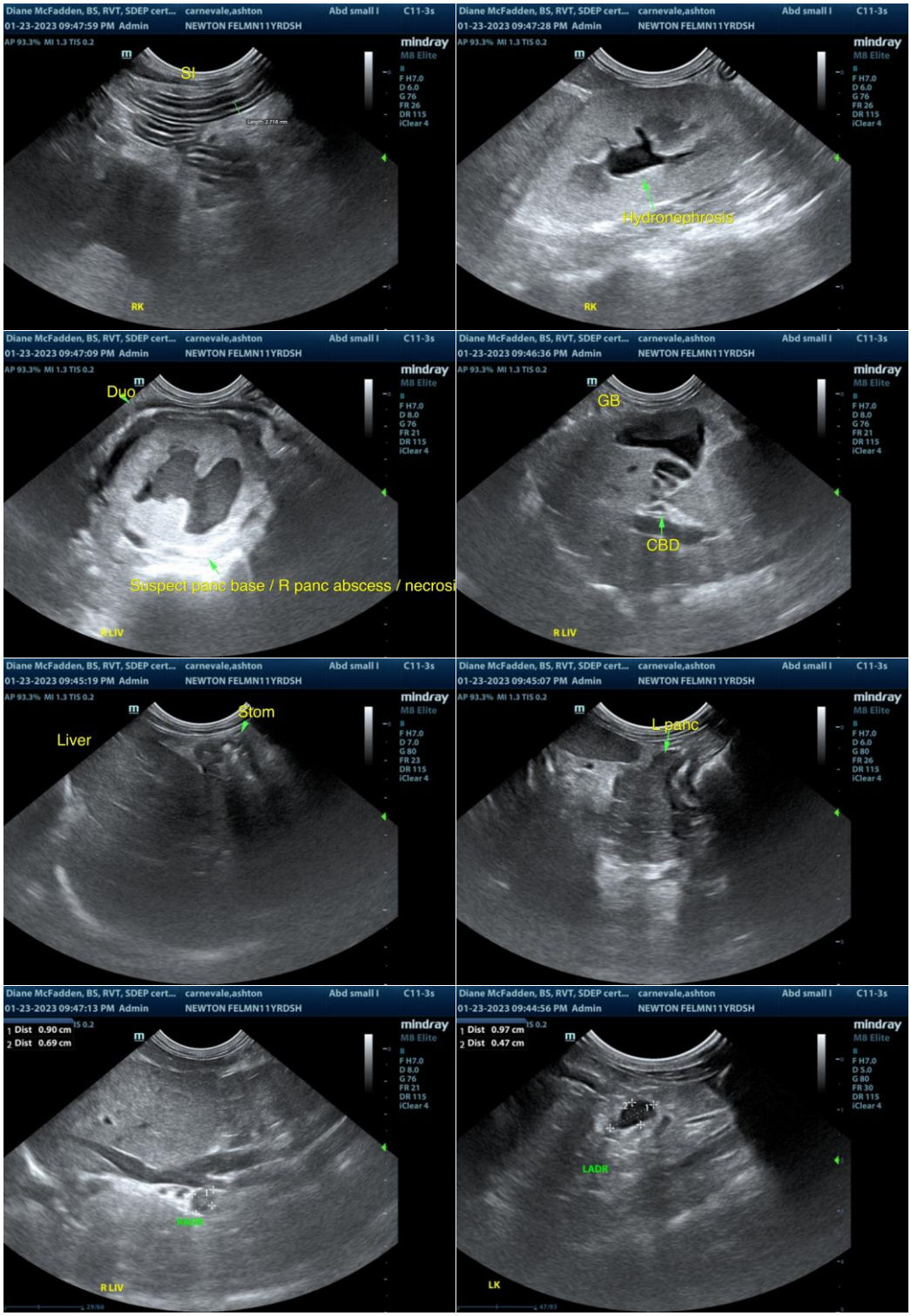

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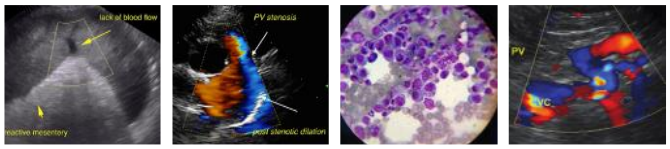

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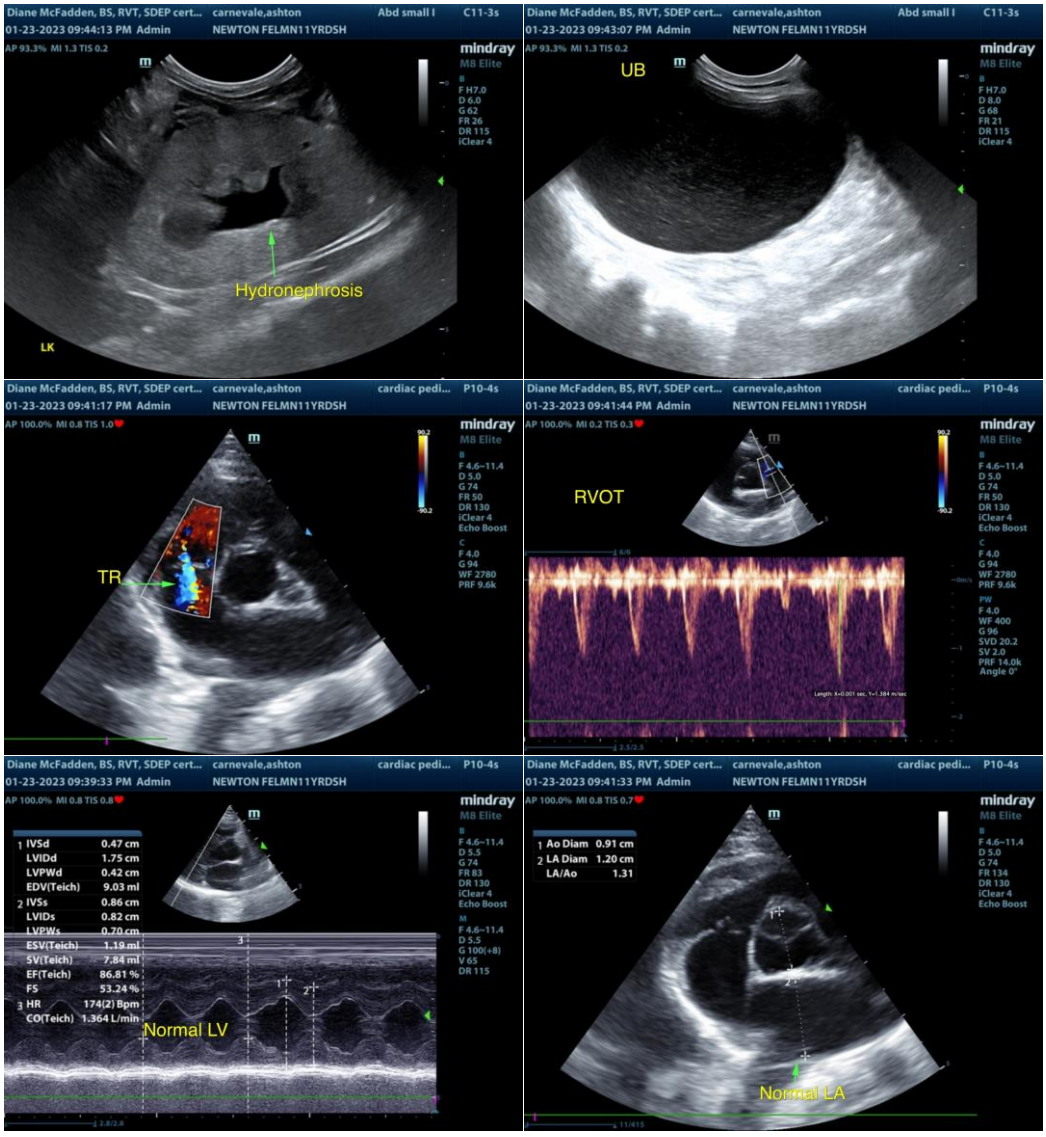

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
mac.daniel@sonopath.com