SonoPath
Clinical Sonography & Telecytology
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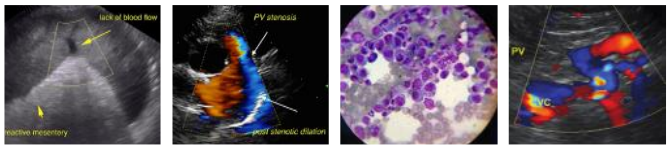


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Franky Cannova

SPECIES

Feline

BREED

Maine Coon

SEX

MN

AGE

14yr

WEIGHT

12.6lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Westwood Regional Veterinary Hospital

REFERRING VET

Dr. Aronow

INVOICE

12183ag

DATE

11/16/2022

PRESENTING CLINICAL SIGNS

Patient presents for heart murmur, anemia (14.9 HCT), RDVM thinks an abdominal mass may be present. Poor reaction to methimazole and enalapril. Current meds: mirtazapine; was on methimazole 3 weeks ago d/c'd.

Abnormal PE/Chem/CBC/UA Results: HCT 14.9, HGB 4.6, lymphs 0.9, eos/baso and PLTs low, monos high, globs. 79, ALT 317, ALT 119, T. bili 14.3. U/A: USG 1.024, 2+ protein, UPC 2.2.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

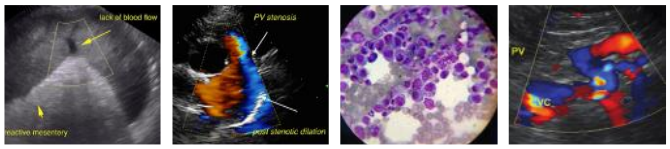
FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		177	0.5	1.52	0.5	55	88
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE** (Sisson)	**LA** 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	1.2		1.5	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 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. 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.

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.



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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 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 4.2 cm in length. The right kidney measured 4.4 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 0.35 cm width. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.35 cm width.

Spleen

The spleen exhibited mild to moderate generalized enlargement with decreased parenchymal echogenicity with a mild to moderate coarse echotexture. Normal to adequate splenic vascularity was present on power Doppler. The spleen measured 1.4 cm in width at the level of the hilus.

Liver

The liver presented mild to moderately increased in size. The parenchyma of the liver was subjectively increased in echogenicity compared to the spleen and renal cortices. The echotexture of the liver parenchyma was uniform with a mild coarse echotexture. The capsule of the liver was symmetrical 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. No evidence of gallbladder wall inflammatory criteria. The cystic biliary and proximal common bile duct was dilated and tortuous without overt post hepatic obstruction extending caudally to the approximately level of the duodenal papilla. The common bile duct dilation measured 0.21 cm diameter. No overt evidence of mucoduct, ductal calculi or duodenal papilla pathology.

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 pancreas was normal in size and contour with subtle hypoechoic parenchyma compared to adjacent omentum.

Free Abdomen

No omental masses or overt lymphadenopathy was present.

Mild to moderate volume peritoneal effusion exhibiting mild echogenic changes which may suggest fluid cellularity. Subtle generalized increased parenchyma echogenicity was present.

ULTRASONOGRAPHIC FINDINGS

- Splenomegaly with parenchymal hyperechogenicity

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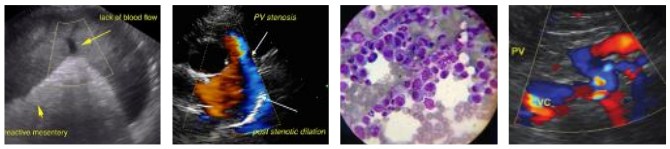

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- Subjective chronic to acute on chronic cholangitis/cholangiohepatitis hepatobiliary pattern-no overt post hepatic obstruction
- Possible low-grade pancreatitis
- Mild to moderate volume peritoneal free fluid exhibiting echogenic changes
- Normal echocardiogram-probable physiologic/flow murmur

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

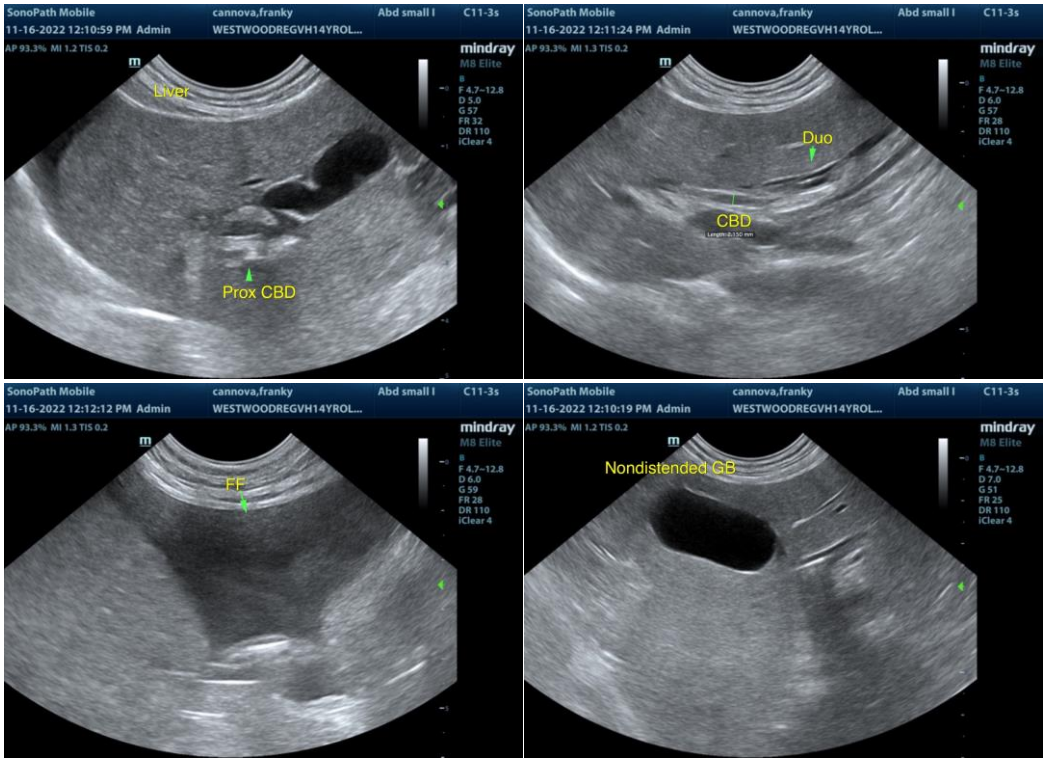
Concern for infiltrative splenic round cell neoplasia i.e. lymphoma or other is warranted. Potential for multicentric hepatosplenic neoplasia is possible. Ideally and assuming normal clotting status (yet likely dependent on patient clinical status and potential stabilization of anemia and thrombocytopenia) a hepatic FNA for screening cytology as well as effusion analysis cytology +/- C/S if evidence of inflammatory cells is warranted for further assessment.

A CBC pathology review, infectious disease serology and recheck retroviral status is warranted.

Potentially thyrotoxicosis may be considered if uncontrolled hyperthyroidism is present.

A guarded prognosis is indicated pending additional diagnostics.

A recheck sonogram may be considered pending clinical response to supportive care or if persistent/progressive hepatic enzyme elevations and/or clinical signs despite supportive care are noted.



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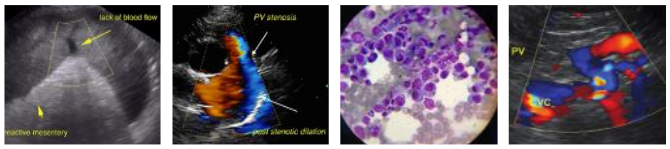

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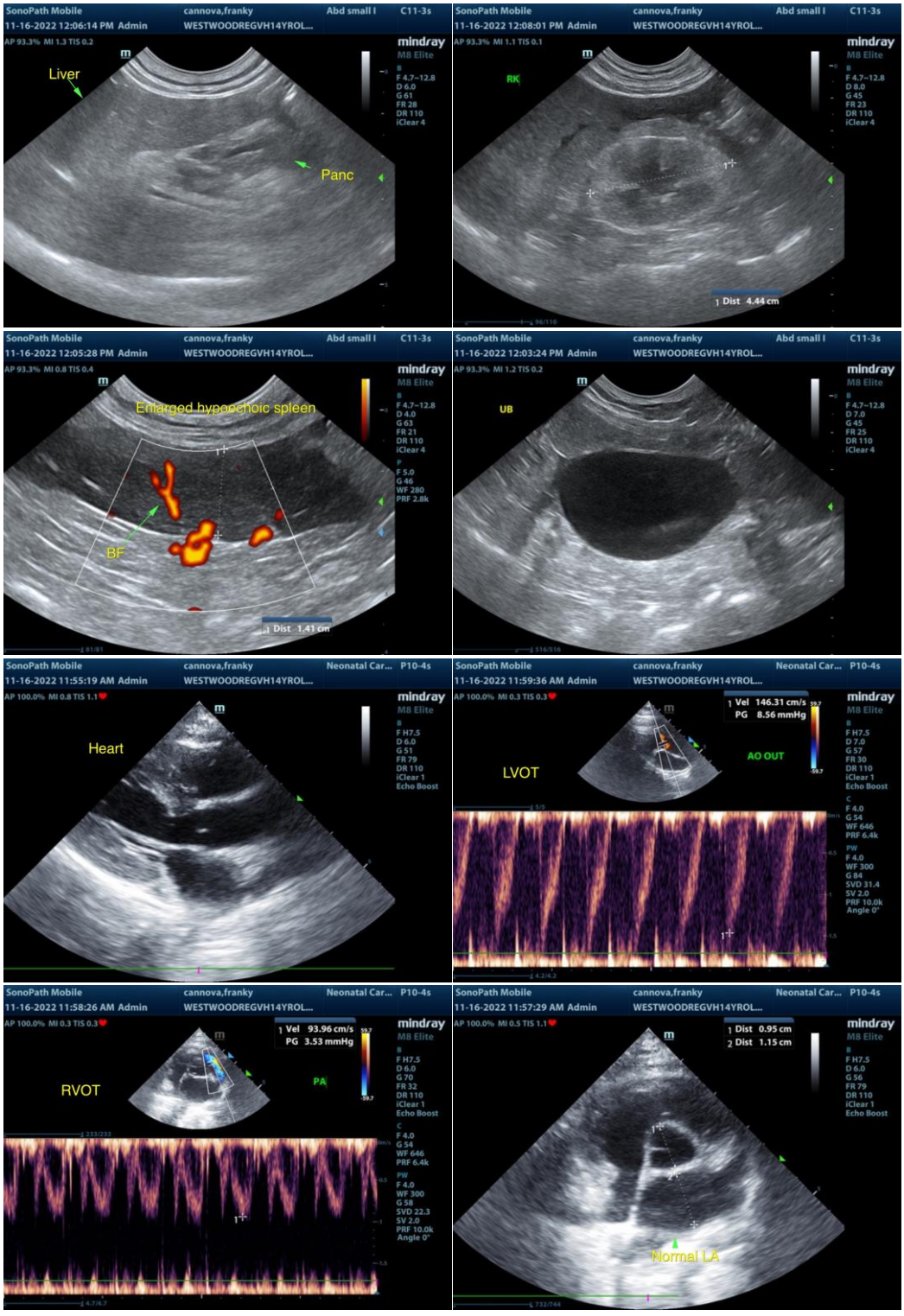
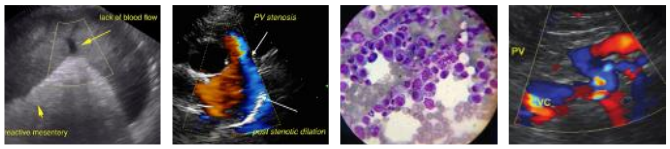


The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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