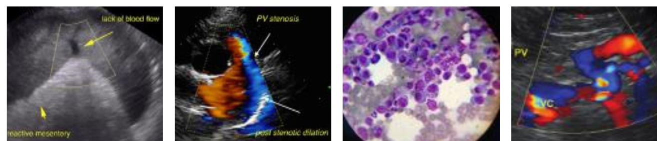
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Wing Reilly

SPECIES

Canine

BREED

Mix

SEX

FS

AGE

10 years

WEIGHT

6.1 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Marsh Hospital for Animals

REFERRING VET

Dr. Milwicki

INVOICE

16222

DATE

2/21/23

PRESENTING CLINICAL SIGNS

weight loss, recheck echo and abd; recent constipation issues. On spironolactone, thyrosym, lactulose, sildenofil, tylan, budesonide

Abnormal PE/Chem/CBC/UA Results: glu 22,BUN 36, ALT , HCT 76, HGB 29.5, K 5.5, amylase low 293

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	<1.3	28-40	40-100	<0.6
PATIENT				1.5	40	75	0.2
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	NM	1.0	0.9		1.7	1.5	

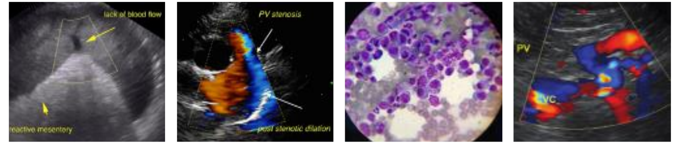
Cardiac Presentation

The echocardiogram presented moderate enlarged right ventricle with free wall myocardial remodeling and mild hypertrophy. Concurrent moderate right atrial enlargement was noted. Normal tricuspid valve was noted without overt evidence of significant TR on Doppler. The pulmonary artery exhibited moderate to marked uniform enlargement compared to the aorta measuring 1.5 cm in diameter. Mildly depressed measured RVOT velocity was present. Significant pulmonic insufficiency was present on Doppler measuring 3.3 m/s end-diastolic velocity. No evidence was noted of heartworms. The left ventricle exhibited linear to flattened ventricular septum with mild generalized myocardial remodeling. Normal LV function and LV volume were present. Mildly thickened mitral valve, suggestive of mild endocardiosis, was noted. Potential mild MR was present on Doppler, yet not significant. The left atrium was normal in diameter. Normal measured RVOT velocity was noted. No cardiac tumors or evidence of pericardial or pleural effusion was noted. No overt arrhythmia was noted.

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 no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was 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 mild to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.9 cm in length. The right kidney measured 4.6 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 1.5 cm length x 0.46 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 1.3 cm length x 0.61 cm width 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/ Gallbladder

The liver exhibited generalized enlargement with symmetrical capsule contour and mild uniform increased parenchyma echogenicity. Subtly prominent hepatic vasculature most notable at the level of the hepatic vein caudal vena cava junction with concurrent subtly prominent cranial abdominal caudal vena cava was present. The gallbladder was non-distended in size exhibiting minor wall edema containing primarily anechoic content with mild echogenic, nonorganized, gallbladder debris. 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 subjective segmental to generalized mildly prominent mucosa layer with mild nonspecific mildly hyperechoic duodenojejunal mucosal speckling and segmental nonshadowing intestinal ingesta / chyme.

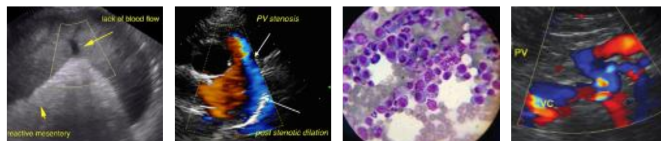
Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Free Abdomen

No evidence of significant lymphadenopathy or peritoneal effusion was present. Subjective mild generalized increased omental echogenicity was noted.



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ULTRASONOGRAPHIC FINDINGS

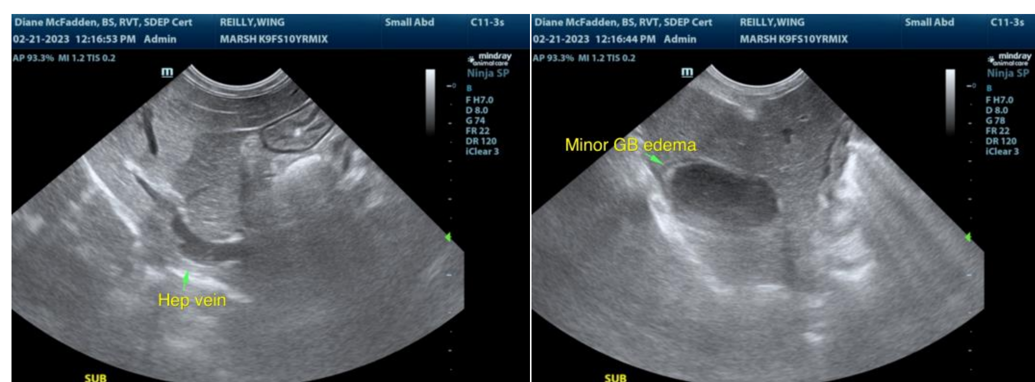
- Severe chronic pulmonary hypertension with moderate to markedly enlarged pulmonary artery and RA/RV (Cor pulmonale)
- Normal LA
- Mild hepatomegaly exhibiting subtle evidence of hepatic congestion
- Minor gallbladder wall edema with mild gallbladder debris (non-mucocele)
- Static chronic renal changes
- Nonspecific enteropathy pattern

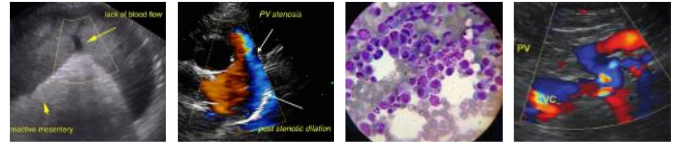
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Continued medical therapy for severe pulmonary hypertension with exercise restriction is warranted. Without the presence of ascites, the right heart appears to remain compensated, although mild evidence of hepatic congestion and gallbladder wall edema were present indicating that the possibility of emerging right heart failure is possible. This patient remains at significantly elevated risk for emerging right heart failure, malignant arrhythmias, and/or potential sudden death.

Given the increased hematocrit, a definitive shunt was not obvious in this patient. However, if persistent / progressive polycythemia, referral to a local cardiologist for contrast imaging i.e., bubble study may be indicated.

A GI panel to include PLI/TLI/Cobalamin/Folate is recommended.





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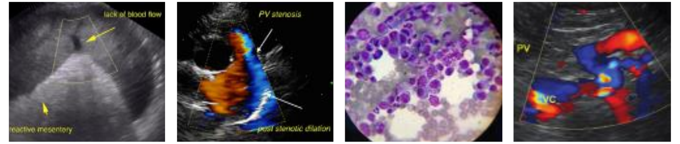

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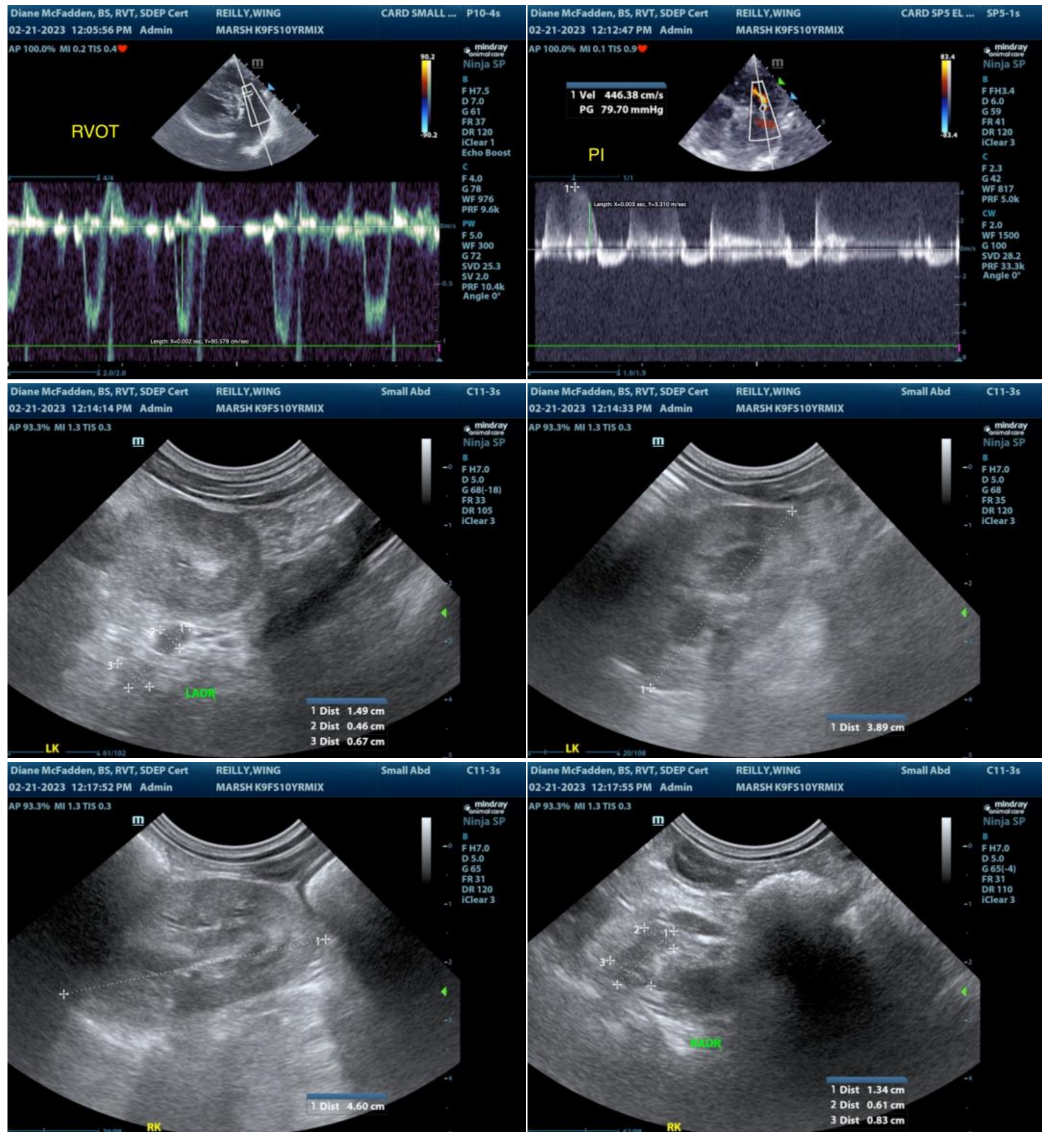

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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