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Clinical Sonography & Telecytology
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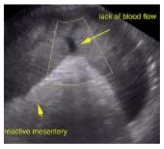
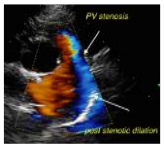
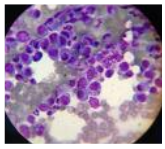
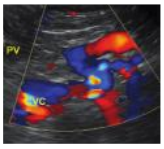





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Chloe Reilly

SPECIES

Canine

BREED

Boston Terrier

SEX

FS

AGE

13 years

WEIGHT

20 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

13805

DATE

5/5/22

PRESENTING CLINICAL SIGNS

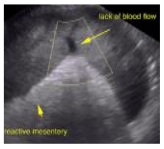
Hx of murmur, chronic increased liver values, cushings. On trilostate, hepaticlear, proviable
Abnormal PE/Chem/CBC/UA Results: AST 100, ALT 1576, ALKP 2215, GGT 35

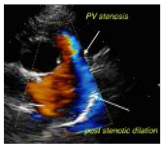
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

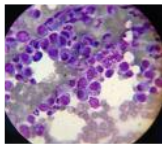
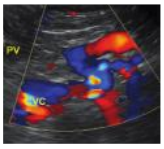
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	5.8	2.5		1.41	33	62.3	0.46
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (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	1.4	0.9		3.0	3.4	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated mild thickening with mild TR 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.





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Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 4.0 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.

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. Minor areas of medullary mineral were noted primarily in the lateral diverticuli. The left kidney measured 4.8 cm in length. The right kidney measured 5.1 cm in length.

Adrenal Glands

Bilateral adrenal gland enlargement with uniformly hypoechoic parenchyma and mild capsule asymmetry was present. The left adrenal gland measured 0.84 cm width at the caudal pole and 1.0 cm width at the cranial pole. The right adrenal gland measured 0.8 cm width at the caudal pole and 1.5 cm width at the cranial pole.

Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

Liver/ Gallbladder

The liver exhibited generalized enlargement with overall normal hepatic parenchyma echogenicity exhibiting moderate coarse echotexture. Nonhomogeneous, mildly expansive mass was present in the subjective left caudal liver measuring approximately 5.2 cm in diameter. Potential additional ill-defined nonhomogeneous mass was noted in the deep mid liver, measuring approximately 4.5 cm diameter. The gallbladder was non-distended in size. The gallbladder walls were sonographically normal. Primarily anechoic content was present with mild inspissated dependent luminal debris exhibiting mild distal acoustic shadowing. The cystic and common bile ducts were normal. No evidence of peripheral gallbladder inflammation was noted.

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.

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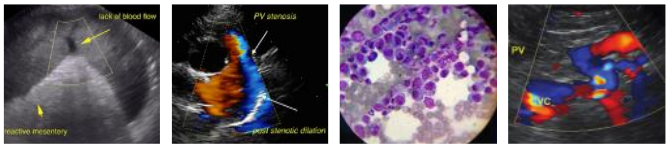

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Pancreas

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 were evident.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- Mild TR - estimated pulmonary pressure gradient (approximately 25 mmHg), not consistent with clinical pulmonary hypertension
- Hepatopathy exhibiting several nonhomogeneous mildly expansive intraparenchymal masses
- Mild inspissated emerging mineralized gallbladder debris - potential emerging cholelith
- Mild chronic kidneys
- Bilateral adrenomegaly - consistent with PDH

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency with minor concurrent tricuspid valve insufficiency. The lack of left atrial enlargement implies that the risk of complications secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. No other clinical issues such as LV systolic dysfunction or evidence of clinical pulmonary hypertension were noted. Conservative monitoring is recommended with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease develop.

The hepatic masses were nonspecific with several etiologies possible including hyperplasia, granulomas, hematopoiesis, or neoplasia. If accessible, ultrasound-guided FNA of a hepatic mass lesion, assuming normal clotting status, is recommended for screening cytology and further assessment. Continued hepatosupportive medications including Ursodiol, given the presence of gallbladder debris and likely nonobstructive cholestasis with sonographic monitoring of the hepatic masses for evidence of progression, would be a more conservative approach.

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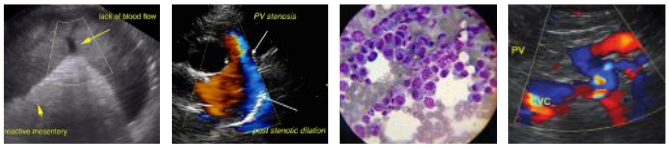

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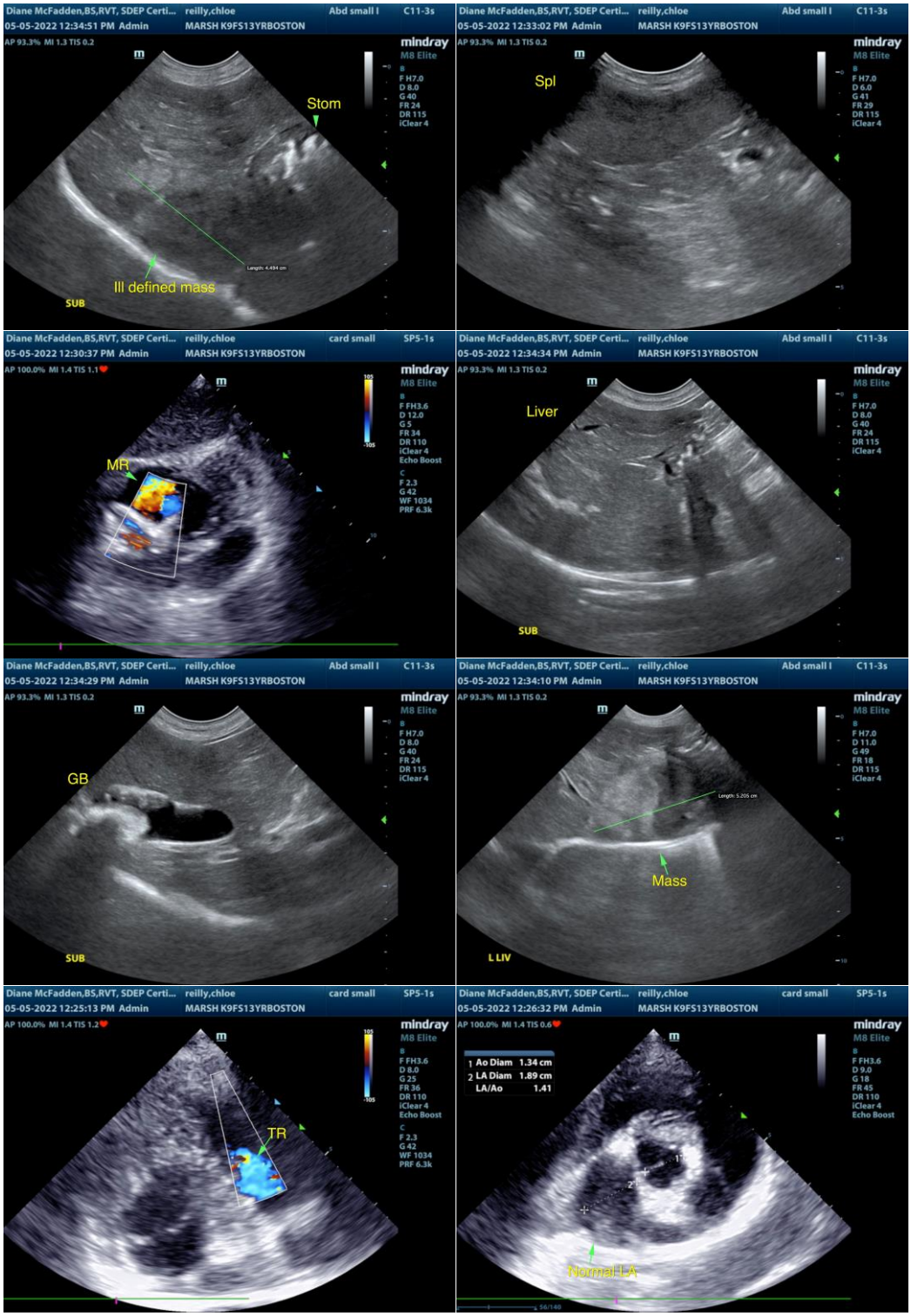

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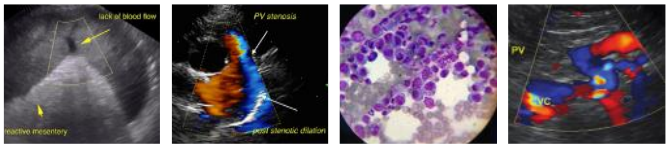

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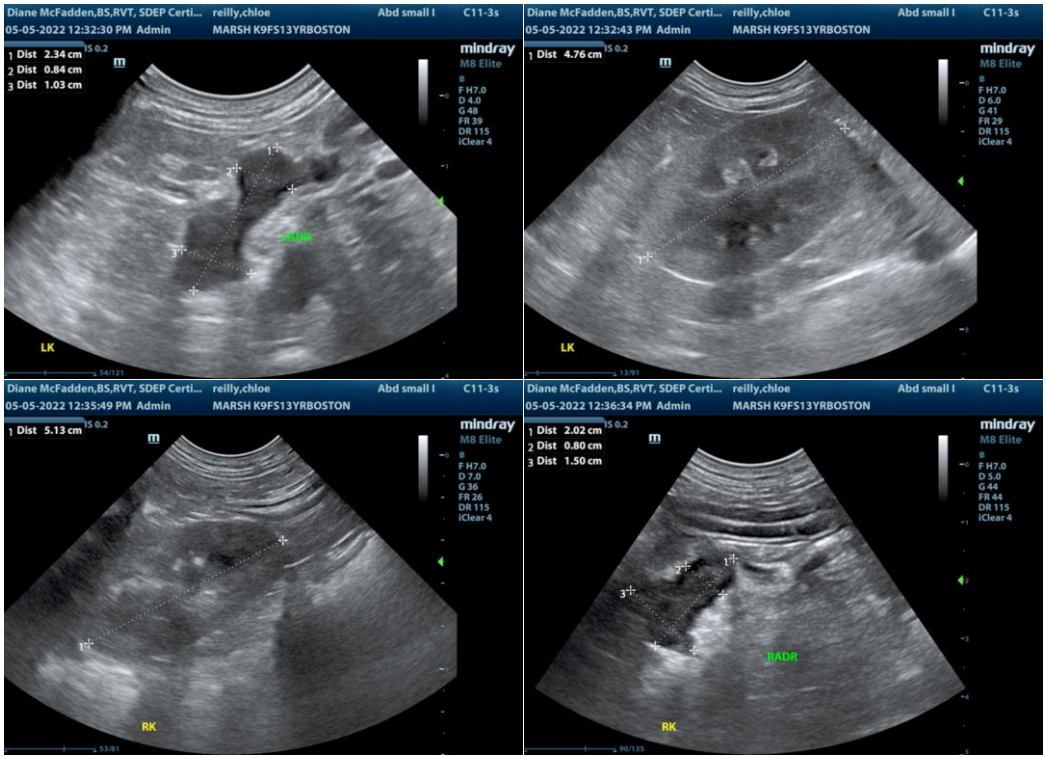

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
info@SonoPath.com