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Clinical Sonography & Telecytology
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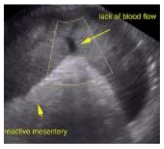
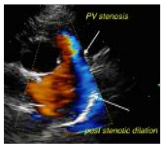
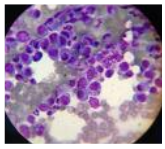
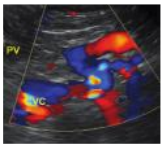




SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Charlie Leeds

SPECIES

Feline

BREED

DSH

SEX

M/N

AGE

9 years

WEIGHT

11 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

16221

DATE

2/21/23

PRESENTING CLINICAL SIGNS

hx of lymphoma diagnosed from a splenic cytology in June 2020. Recent rads show cardiomegaly, has been coughing but otherwise doing well. On Chlorambucil, prednisolone, furosemide

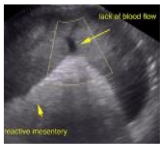
Abnormal PE/Chem/CBC/UA Results: wnl

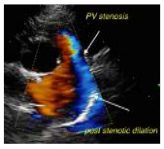
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

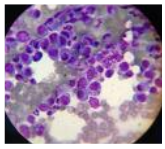
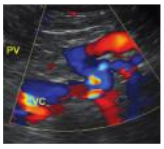
FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		156	0.46	1.6	0.40	43	82
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE** (Sisson)	**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	1.5	1.3	1.4			0.75	NM
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 and structure. Chamber volume and blood echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented minor irregular age-related changes that are not clinically significant at this time with adequate extension in systole and union in diastole. The **left ventricle** presented normal free wall and septal thicknesses with linear contour. The **myocardium** presented some echogenic remodeling consistent with expected age-related change. **Contractility** of the ventricular walls was adequate and in normal range for this breed and patient size. The **left ventricular outflow** tract demonstrated normal laminar flow with subjectively unremarkable structure. Subjective assessment of the **right atrium** and auricle revealed normal size, structure, and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated expected findings for this age patient. Mild TR was present on Doppler. The **right ventricle** was of normal size (1/3 diameter of LV), echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No evidence of cuor pulmonale, stenosis, or pulmonic hypertension was noted. No visible **pericardial** or free pleural fluid was noted. The **mediastinum** was free of masses in the visible window.





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Urinary System

The urinary bladder, trigone, and cystourethral junction exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen. Moderate, nondependent, particulate sediment, which may indicate cellular debris / protein, crystalline debris, lipid, or mucus, was present without evidence of calculus formation. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic mural changes were noted. Urinalysis +/- C/S, if evidence of inflammatory cells, is suggested.

The area of the aortic trifurcation was free of pathology.

Normal renal size with asymmetrical margination were 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. The left kidney measured 4.5 cm in length. The right kidney measured 4.8 cm in length.

Adrenal Glands

The bilateral adrenal glands were overtly normal in size, position, and shape. The left adrenal gland measured 0.22 cm width. The right adrenal gland measured 0.37 cm width.

Spleen

The spleen exhibited borderline to minor enlargement with a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. A maintained symmetrical splenic capsule contour was noted. 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. The spleen measured 1.2 cm width at the level of the hilus. No splenic masses or nodules were 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 contained echogenic, nonshadowing ingesta without signs of obstruction or foreign material. The ingesta is sonographically consistent with food with no evidence of mechanical pyloric outflow obstruction and with overtly normal stomach walls.

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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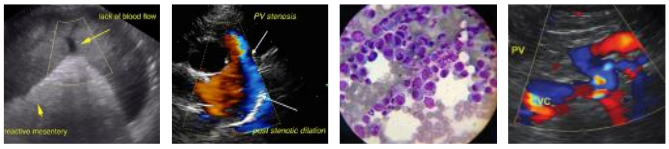

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Pancreas

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 omental masses, lymphadenopathy, or peritoneal effusion were noted.

ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function with minor myocardial remodeling
- Mild TR - incidental, no evidence of clinical pulmonary hypertension
- Urinary bladder sediment
- Bilateral interstitial nephrosis renal pattern
- Borderline / mild splenomegaly - subjectively benign
- Gastric ingesta

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No overt evidence of significant abdominal visceral pathology or definitive neoplastic criteria was noted.

Screening splenic FNA cytology, assuming normal clotting status and using a 25-gauge needle, could be considered for further clarification, yet cytology may be suppressed owing to current chemotherapy and steroids. However, no overt suspicion of splenic infiltrative neoplastic criteria. Sonographic reassessment of the spleen may be considered if persistent evidence of splenomegaly is noted.

Given the lack of left or right heart chamber enlargement or evidence of clinical pulmonary hypertension, the coughing in this patient is most likely noncardiogenic in origin. No indication for cardiac medications.

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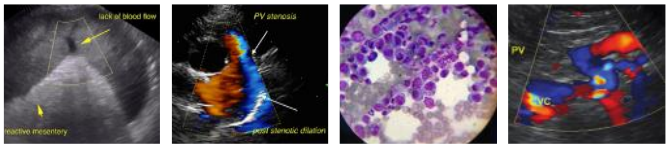

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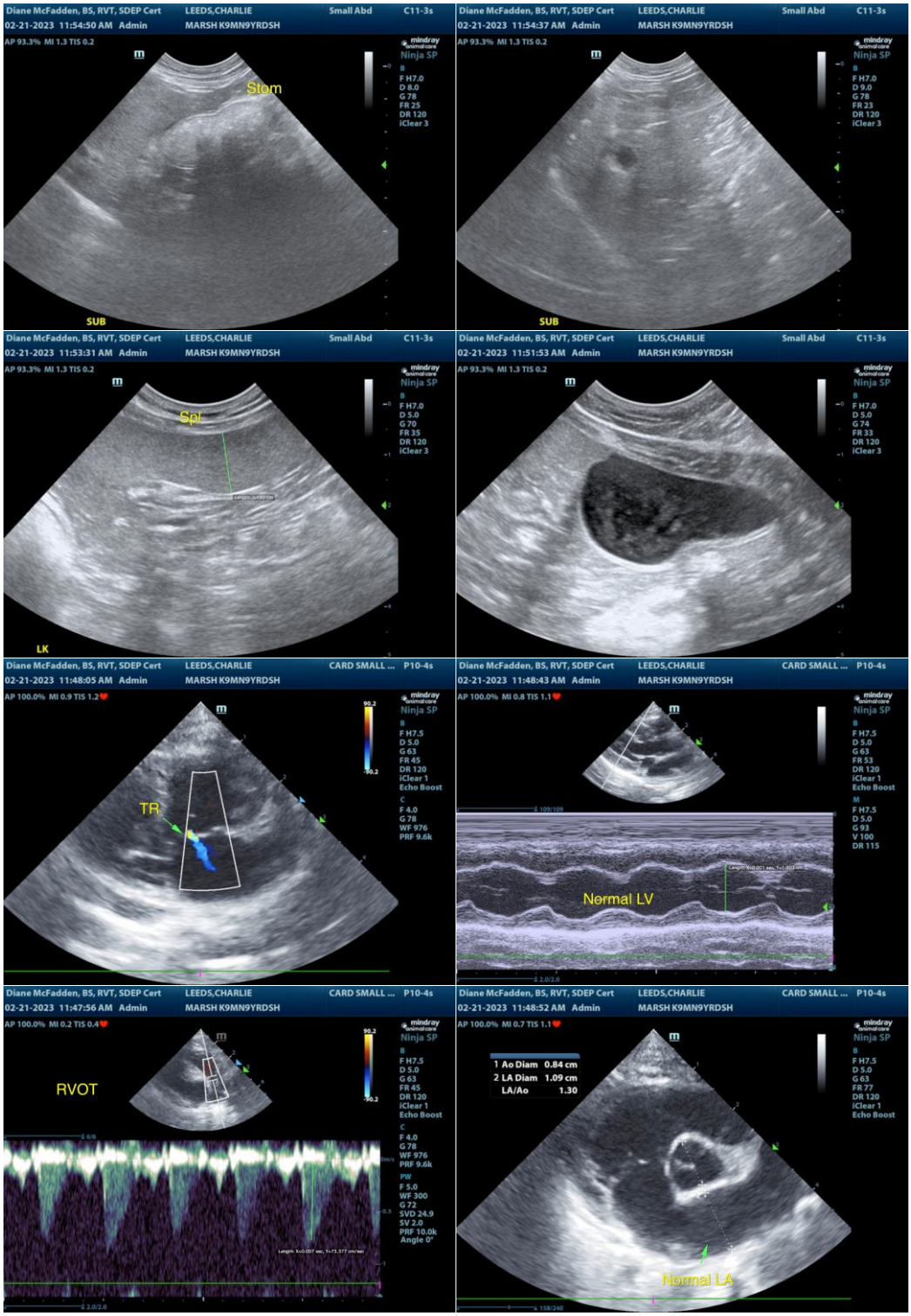

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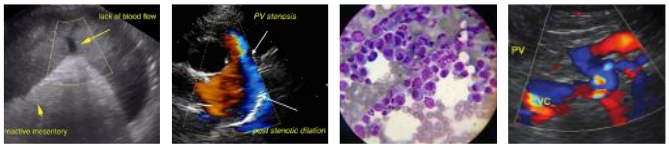

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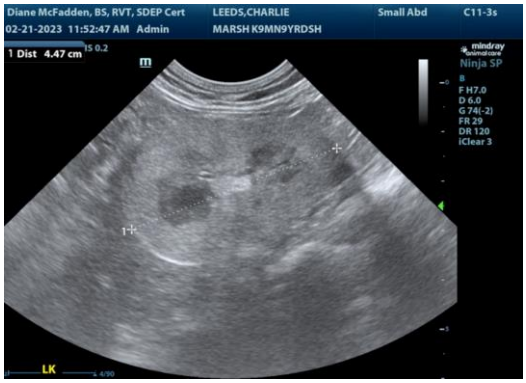

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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