SonoPath
Clinical Sonography & Telecytology
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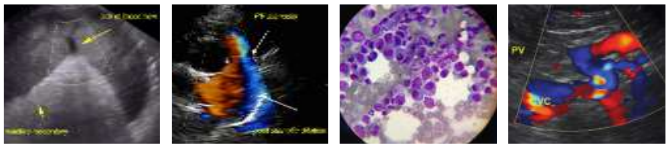


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Samuel Adams Rolef

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

8 years

WEIGHT

16.8 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Andover AH

REFERRING VET

Dr. Parker

INVOICE

12174

DATE

9/3/21

PRESENTING CLINICAL SIGNS

Hx of IBD, vomiting daily for a week. Last echo done 11/16/20, flow murmur

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		82	0.34	1.73	0.33	41.3	75.5
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	1.23	1.2	1.4		1.0	0.6	NM

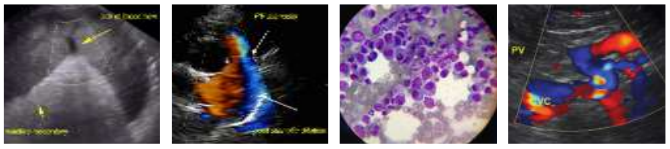
Adapted from June Boon,Veterinary Echocardiography,1998
Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. Color doppler assessment of the aortic valve revealed trace insufficiency. 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 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. Color doppler assessment of the tricuspid valve revealed trace insufficiency. 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 2.0 cm exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen. Mild,



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particulate, nondependent sediment 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.

The area of the aortic trifurcation was free of pathology.

A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 4.4 cm in length. The right kidney was mildly enlarged in size compared to normal renal size for the species, yet with normal corticomedullary architecture and echogenicity, measuring 5.1 in length. This is likely a patient variant, without evidence of underlying nephropathy.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.44 cm width. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.32 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. The spleen measured 0.59 cm in width.

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

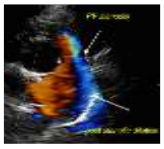
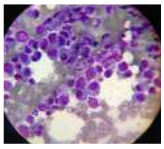
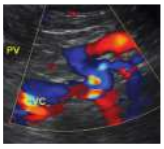
The gastric walls were sonographically unremarkable with intact wall layering and without evidence of mural hypertrophy. The lumen of the stomach contained moderate, echogenic ingesta with minor retained fluid. The gastric body wall measured 0.30 cm width. The pylorus wall measured 0.20 cm width.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine contained echogenic, nonshadowing ingesta. No evidence of mechanical gastrointestinal obstruction or overt foreign material. The duodenum wall measured 0.27 cm width. The jejunum wall measured 0.20 cm width. The ileocolic wall measured 0.33 cm width.

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

Pancreas

The pancreas base and right pancreatic limb exhibited subtle prominent size with mild hypoechoic parenchyma compared to adjacent omentum.

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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Normal echocardiogram in light of mild sedation
- Trace aortic and tricuspid insufficiency
- Mild urinary bladder sediment
- Gastrointestinal ingesta
- Mildly hypoechoic right pancreas

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The urinary bladder sediment may suggest cellular / crystalline debris or mucus. Cystocentesis for UA +/- C/S if evidence of inflammatory cells is recommended.

The presence of gastrointestinal ingesta is nonspecific and likely indicates post-prandial presentation. Correlation with most recent meal ingestion is recommended. If documented NPO prior to the ultrasound, the presence of gastrointestinal ingesta may indicate some degree of gastrointestinal, specifically gastric hypomotility or metabolic stasis, possibly owing to underlying inflammatory process without evidence of mural changes. The sonographic presentation of the ingesta was most consistent with food, without evidence of foreign material. Dietary intolerance / food hypersensitivity or potential occult parasitism are other possibilities.

A potential for mild chronic active pancreatitis is possible especially if evidence of cranial abdominal or subxiphoid discomfort on palpation or elevated Spec fPL. If clinically indicated, broad-spectrum deworming +/- heartworm antigen and antibody test may be considered as cats with heartworm disease often exhibit consistent vomiting.

No evidence of structural or functional cardiomyopathy, given the sedation. The minor valvular Insufficiencies noted are suspected to be owing to sedation and not considered clinically significant. No indication for cardiac medications.

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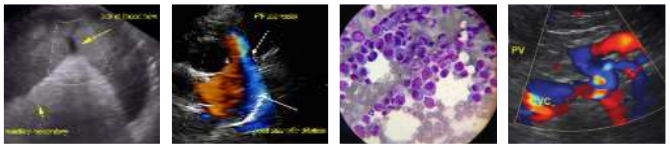

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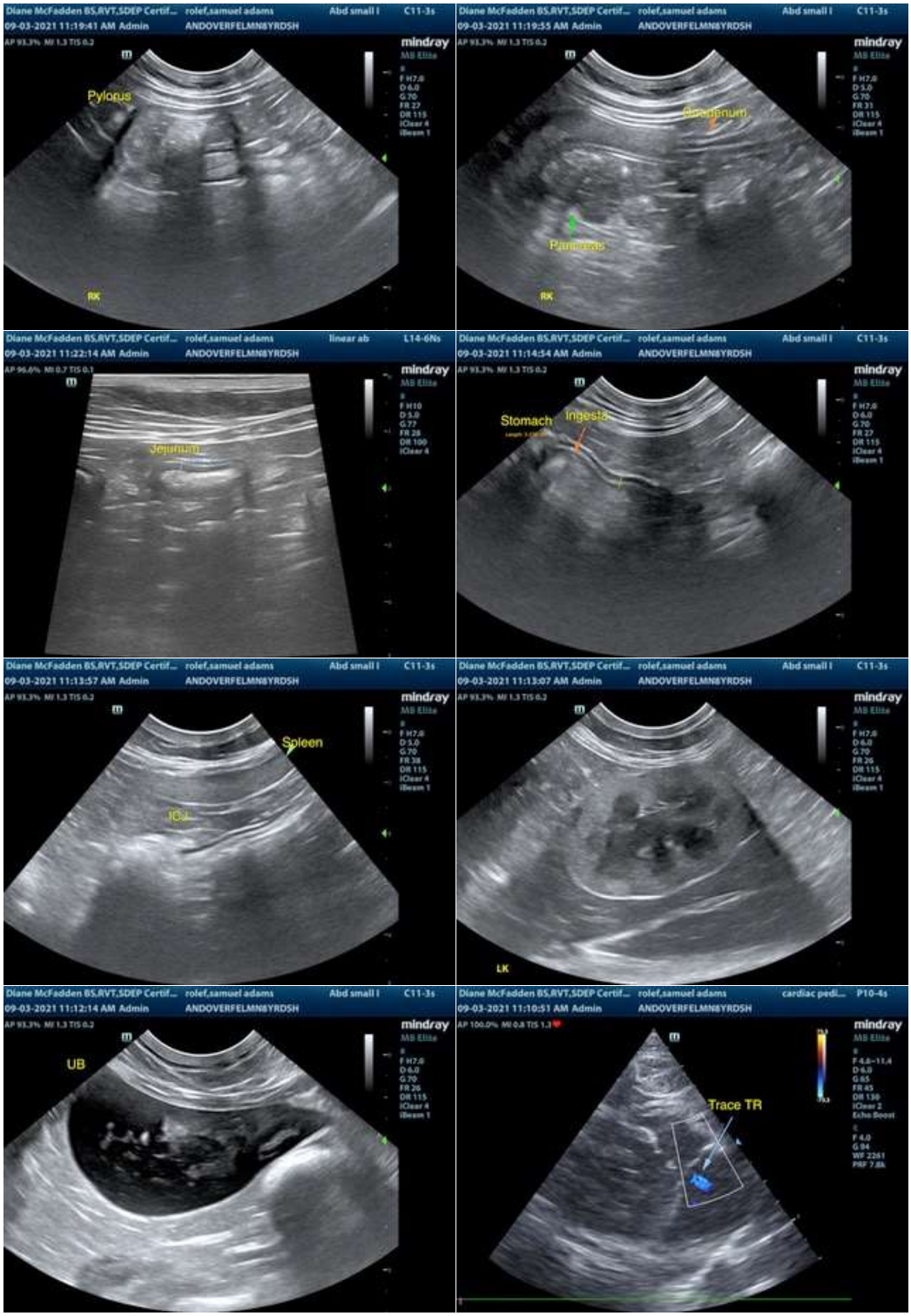

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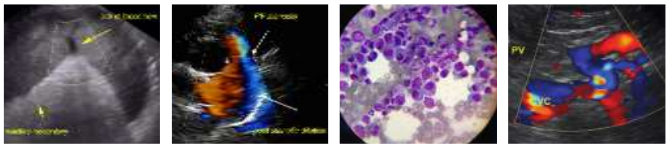

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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