



PATIENT PRESENTING CLINICAL SIGNS

Riley Merk History: hx of chronic vomiting, gas distension of GI tract with prominent fluid (functional ileus); one seizure episode; R/O neoplasia vs other. On metoclopramide

SPECIES Abnormal PE/Chem/CBC/UA Results: BUN 40.3, Ca 13.7, glob 4.9, ALT 121, Na 158 neuts incr 14.5, Hgb incr 15; UA: blood 3+, protein trace, rbc 20-30, wbs 0-3, occasional casts, scant cocci, USPG 1.018.
Feline

BREED ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

DSH

SEX

Neutered Male

AGE

16 Years

WEIGHT

7.8 Lbs.

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	--	165	0.51	1.34	0.47	51.3	85.8
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	1.41	1.35	1.2	<2.0	<2.0	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							

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Kim

INVOICE

13919

DATE

2/14/22

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. 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 dilation due to heartworm disease, 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.

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. Non-dependent



PATIENT	particulate 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. Aortic trifurcation was normal.
Riley Merk	
SPECIES	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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.0 cm in length. The right kidney measured 3.65 cm in length.
Feline	
BREED	Adrenal Glands
DSH	The left adrenal gland was uniform in size and contour with a uniformly hypochoic parenchyma. The left adrenal gland measured 0.37 cm.
SEX	No overt pathology in the area of the right adrenal gland.
Neutered Male	Spleen
AGE	The spleen exhibited mild generalized enlargement with folding. Maintained finely textured homogeneous parenchyma and overall normal symmetrical capsule contour were present. The spleen measured 1.5 cm in width at the level of the hilus. No splenic masses or nodules noted.
16 Years	
WEIGHT	Liver
7.8 Lbs.	The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypochoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion.
INTERPRETED BY	The gallbladder was non distended in size with mild gallbladder debris. The cystic duct and common bile ducts were normal without evidence of dilation.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	Gastrointestinal
IMAGING PERFORMED BY	The visualized gastric walls were sonographically normal. The lumen of the stomach contained moderate ingesta without signs of obstruction or foreign material. The ventral gastric body wall measured 0.20 cm.
Diane McFadden	
HOSPITAL NAME	The small intestine presented intact wall layering and maintained 1:3 muscularis/mucosa ratio with segmental retained non-shadowing chyme. The duodenum wall measured 0.25 cm. The jejunum wall measured 0.20 cm.
Newton VH	
REFERRING VET	Normal visible colon wall layers were present with semi-formed to soft feces in lumen.
Dr. Kim	Pancreas
INVOICE	The pancreas was normal in size and contour with heterogeneous to mildly hypochoic parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.
13919	Free Abdomen
DATE	No evidence of overt or significant lymphadenopathy present. Small pockets of scant anechoic peritoneal free fluid were present.
2/14/22	ULTRASONOGRAPHIC FINDINGS



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- Overtly normal cardiac structure and function for age
- Sonographically unremarkable gastrointestinal tract, exhibiting moderate gastric and segmental to generalized small bowel ingesta/chyme, subjective inefficient peristalsis pattern.
- Nonspecific mild splenomegaly
- Heterogeneous to hypoechoic pancreas
- Low-grade hepatopathy with minor gallbladder debris- subjectively benign
- Mild urinary bladder sediment- mild cellular or crystalline debris suspected

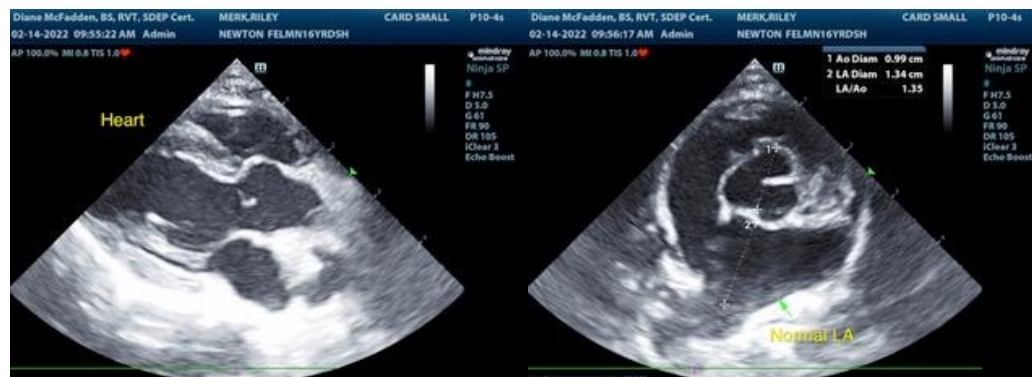
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

The mild splenomegaly was nonspecific with considerations, including patient variant, hyperplasia, hematopoiesis, incidental splenitis, while possible early infiltrative neoplasia cannot be excluded. Assuming normal clotting status, splenic FNA, using a 25-gauge needle for screening cytology warranted, especially, if evidence of weight loss.

Structurally insignificant gastrointestinal disease given the patients history of vomiting and suspected inefficient peristalsis may be present. Likewise, potential for chronic triad disease, given the possibility of concurrent mild chronic to chronic active pancreatitis and suspected low-grade inflammatory hepatopathy, given the ALT elevation, is possible. Further assessment may include GI panel to include PLI, TLI, cobalamin and folate as well as hepatic FNA for screening cytology, primarily to assess for evidence of inflammatory cells.

If not done, three-view chest radiographs may be considered to rule out occult thoracic or esophageal pathology given the hypercalcemia.





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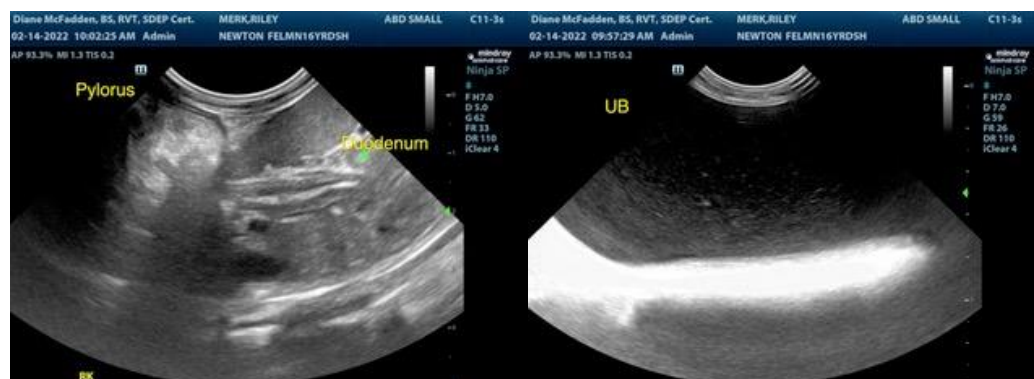
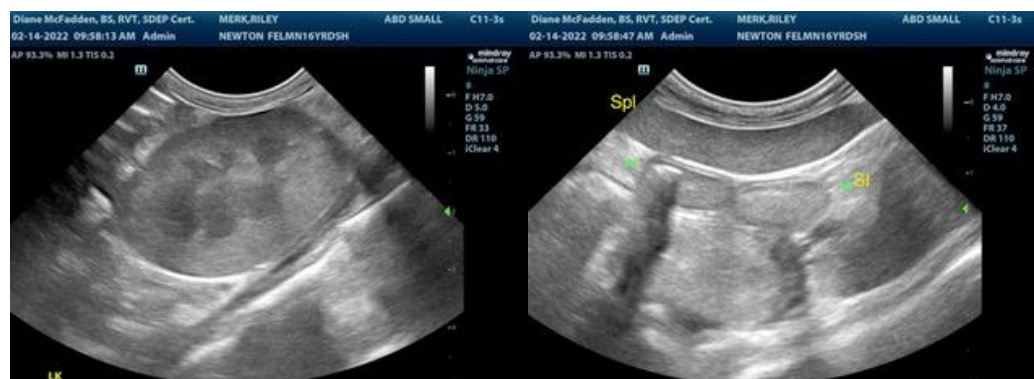
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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