SonoPath
Clinical Sonography & Telecytology
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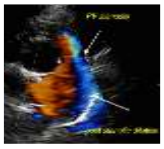
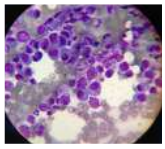
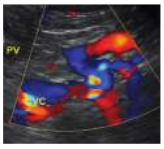




SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Loki Walker

SPECIES

Canine

BREED

Tibetan Terrier Mix

SEX

MN

AGE

8 years 3 months

WEIGHT

26 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Budd Lake AH

REFERRING VET

Dr. Verhalen

INVOICE

12962

DATE

1/5/22

PRESENTING CLINICAL SIGNS

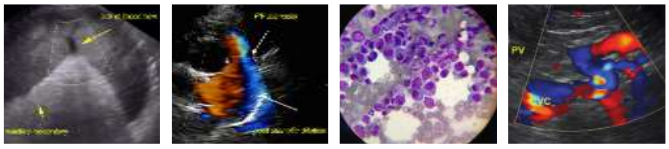
Ongoing weight loss, suspect mid abdominal mass, heart murmur. No current meds
Abnormal PE/Chem/CBC/UA Results: NSF

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	<1.6	28-40	40-100	<0.6
PATIENT	5.2	1.5	--	1.42	36.3	70	0.48
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	BELOW	BELOW	BELOW	BELOW
PATIENT	115	1.1	1.0		3.8	3.9	

Cardiac Presentation

The echocardiogram in this patient demonstrated minor enlarged **left atrial** size based on 3 different LA measurement methods. Potential for a small atrial septal defect noted in the mid interatrial septum is possible although not definitive. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented thicknesses with linear contour with subtle subjective increased left ventricle volume. 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 adequate linear morphology. Minor insufficiency was noted on color doppler assessment. 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 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 residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 1.2 cm in diameter.

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. Potential for pinpoint areas of incidental medullary mineral were noted. The left kidney measured 6.0 cm in length. The right kidney measured 5.8 cm in length.

Adrenal Glands

No overt pathology in the area of the left and right adrenal glands was noted, although not definitively visualized owing to regional periadrenal pathology and peritoneal free fluid.

Spleen

The visualized discernable spleen exhibited a finely textured homogeneous parenchyma with potential for mild splenomegaly and symmetrical yet mildly swollen contour.

Liver/ Gallbladder

The discernable liver exhibited normal overall parenchyma echogenicity with mild coarse echotexture noted in the left, mid and right mid to deep liver. 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 wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. The gastric body wall measured 0.49 cm width. Mild gastric distension with primarily anechoic fluid was present.

The intestinal walls demonstrated intact wall layering and maintained 1:3 muscularis / mucosa ratio. The mucosa exhibited occasional mucosal speckling. Subtle segmental increased mucosa echogenicity was noted in the duodenum and jejunum. A segmental to diffuse ileus pattern consisting of mild fluid accumulation in the intestinal lumen was present without obstruction or foreign material. The jejunum wall width measured 0.39 cm.

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

Pancreas

The pancreas was not definitively visualized owing to mid to cranial abdominal mass.

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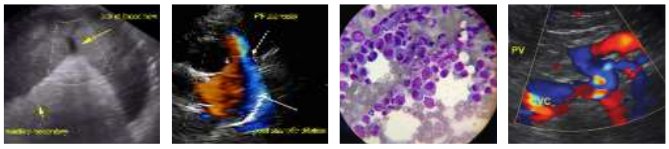

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Free Abdomen

A large, complex, lobulated, mixed echogenic to cystic mass occupying the majority of the mid to cranial abdomen with direct caudal hepatic and medial splenic effacement was present. The mass measured at least 14.0 cm in diameter, but potentially larger as the entire mass would not fit into a single viewing window. Associated regional reactive mesentery was noted around the mass. No evidence of significant lymphadenopathy, although potential for associated mesenteric lymphadenopathy obscured by the mass is possible. Small volume peritoneal free fluid primarily anechoic in appearance was present.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Chronic mitral valve disease (ACVIM - early B2)
- Minor TR - estimated pulmonary pressure gradient not consistent with clinical pulmonary hypertension
- Possible although not definitive small atrial septal defect
- Large, complex, mixed echogenic to cystic mass occupying the majority of the mid to cranial abdomen with direct hepatic and splenic effacement
- Associated mild volume peritoneal free fluid and reactive mesentery
- Gastroenteritis pattern

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. Conservative monitoring is recommended with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease develop. If present, potential small atrial defect appears to be of low hemodynamic significance.

Although sampling is required for further clarification, the unspecified mid to cranial abdominal mass is most consistent with neoplastic criteria. Given its size and direct hepatosplenic effacement, the definitive origin of the mass was difficult to ascertain. Suspect primary hepatic origin with splenic effacement or possible invasion, although potential primary splenic or other origin cannot be definitively excluded. Given the size of the mass, surgical options subjectively may be limited. However, ideally, CT assessment of the mass for further clarification and potential surgical planning, as well as assessment for nonobvious metastasis is recommended. Three view chest radiographs are suggested if not done.

SonoPath CT Services are offered at the Blairstown Animal Hospital. Blairstown, New Jersey. More information can be found at

https://sonopath.com/resources/sonopaths-teleconsultation-services-and-sdep-certification/sonopath-ct-services

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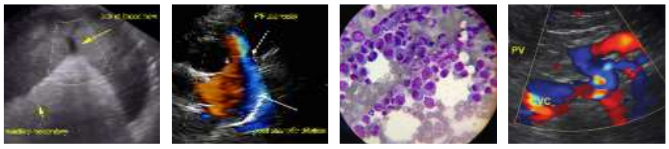

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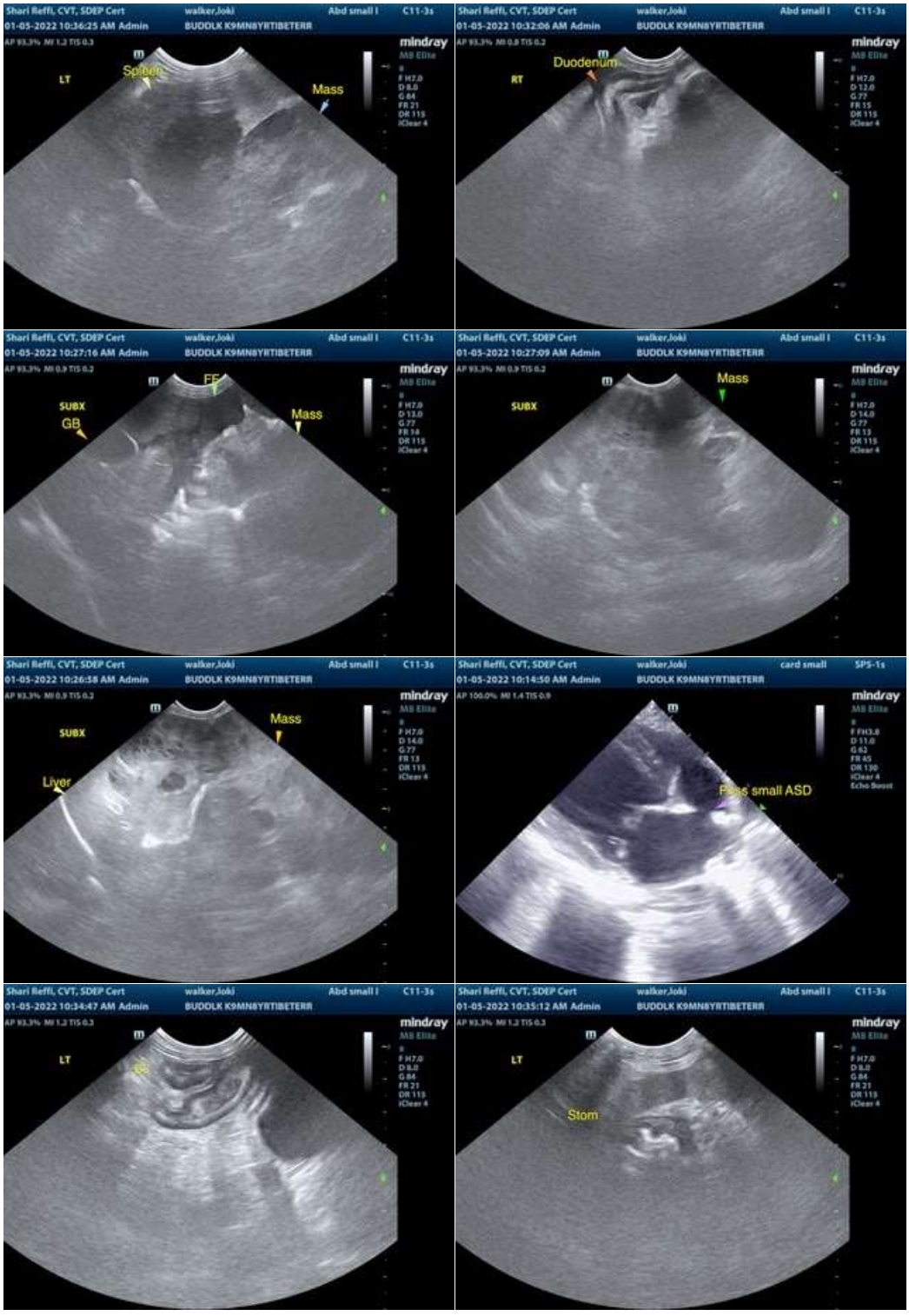

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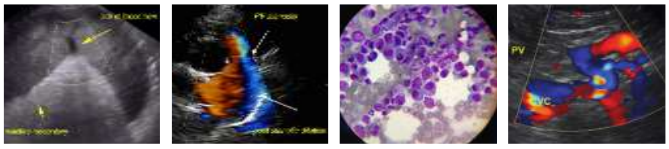

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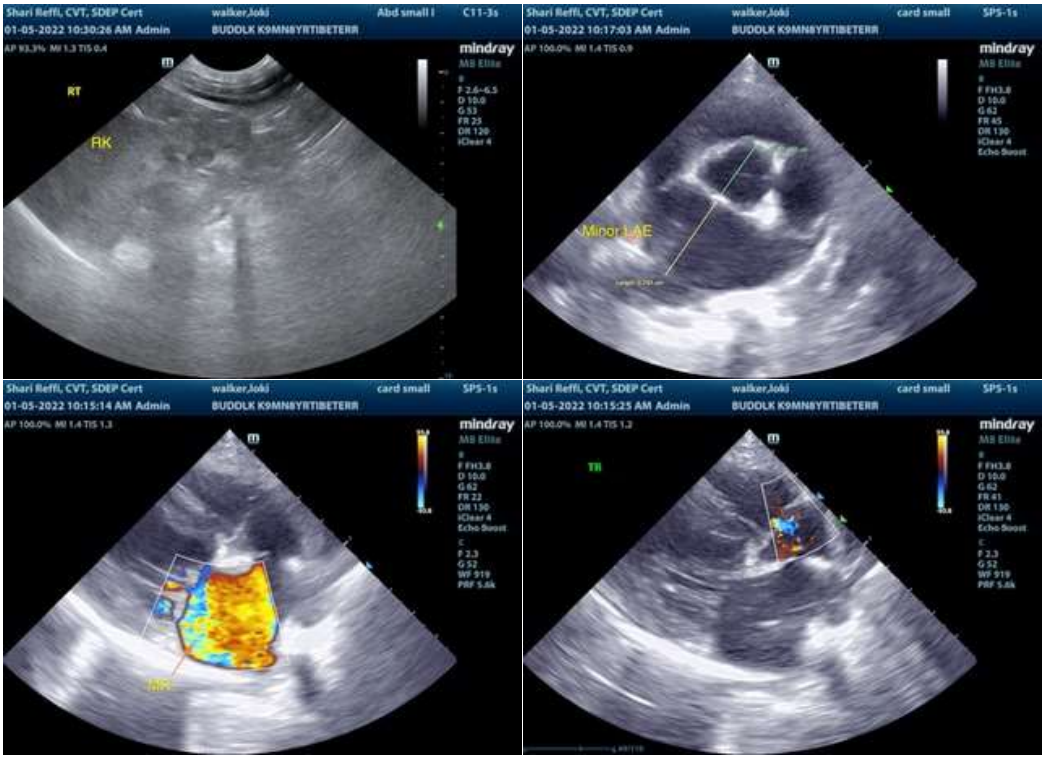

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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