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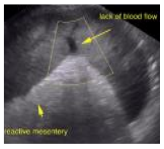
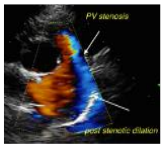
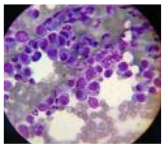
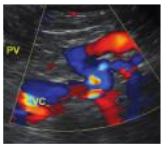

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1-800-838-4268 info@sonopath.com

PATIENT

Tucker Thompson

SPECIES

Canine

BREED

Pitbull Mix

SEX

Neutered Male

AGE

11 Years

WEIGHT

28.7 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Romero

HOSPITAL NAME

Fort Collins VEH

REFERRING VET

Dr. Michael Deogracias

INVOICE

20778

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1/26/23

PRESENTING CLINICAL SIGNS

History: Lethargic yesterday, very difficult time getting up and historically has not had neuropathy/back pain. Usually, very PUPD but had not urinated in 10 hours prior to presentation (very unusual). One episode of vomiting bile. Having diarrhea, now with evidence of some dark blood. UTD on vaccines including Lepto. No known travel outside of CO Has had an elevated ALP for a couple of years, ultrasound 2 years ago overall unremarkable.

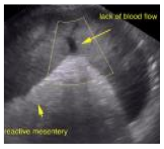
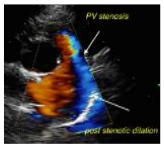
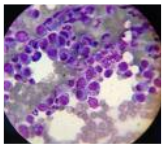
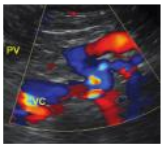
Abnormal PE/Chem/CBC/UA Results: New murmur heard today, systolic left base. Femoral pulses palpable and synchronous. Distended abdomen. Patient can walk with some assistance in help em up harness, but knuckling hind legs. Tachypnea. Fever up to 106.5. Back pain. Can express large urinary bladder with pressure Systolic blood pressure 116 at presentation Lab: Now hypoglycemic (was WNL on presentation last night), 48 Thrombocytopenia, mild inc. in creat 1.6, phos 5.2, ALT 1024, ALP 6733, lactate 4.95 UA – hyposthenuria 1.007, inactive with some debris present and 100 protein Lepto witness test negative Rads: Atalectasis or early pneumo cranial left lung lobe, hepatic enlargement, no mention of spinal abnormalities

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	5.1	2.1	1.0	1.15	31	60	0.5
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	1.0	<1.0	--	4.3	3.7	--

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 mild thickening most consistent with endocardiosis. No evidence of valvular prolapse. Doppler indicated measurable eccentric 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 yet mildly subnormal as 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

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adequate linear morphology. Mild TR present 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. No arrythmia was noted.

Urinary System

The urinary bladder was distended in size with overtly normal urinary bladder walls without evidence of inflammatory or neoplastic criteria. Anechoic urine was present with no sediment or calculi. No overt evidence of obstructive pathology at the level of the urinary bladder neck, residual prostate or proximal urethra. The residual prostate measured 0.96 cm width. Aortic trifurcation was normal.

Both kidneys were normal in size with mild capsule asymmetry and maintained 1:3 cortex to medulla ratio. Potential mild cortical thinning is possible, although not definitive. Nonuniform hyperechoic cortex echogenicity yet mild loss of corticomedullary border demarcation was present. No pyelectasia noted. Pinpoint medullary mineral was present. No renal masses noted. The left kidney measured 7.0 cm in length. The right kidney measured 7.0 cm in length.

Adrenal Glands

Bilateral symmetrical adrenal gland enlargement with uniformly hypoechoic parenchyma was present. The left adrenal gland measured 0.76 cm width at the caudal pole and 0.75 cm width at the cranial pole. The right adrenal gland measured 1.0 cm width at the caudal pole and 0.87 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

The liver exhibited generalized enlargement with rounded to swollen hepatic capsule contour. Mild uniform increased hepatic parenchyma echogenicity compared to falciform fat and spleen. Vascular volume was normal. No hepatic masses or nodules were noted.

The gallbladder was non-distended, exhibiting mild thickened to hyperechoic gallbladder walls. Anechoic content was present with mild nonorganized hyperechoic debris. No evidence of peripheral gallbladder inflammation.

Gastrointestinal

The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with primarily anechoic fluid was present.

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. Intermittent minor nonspecific duodenojejunal mucosal speckling was noted.

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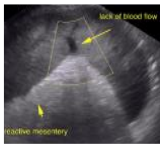
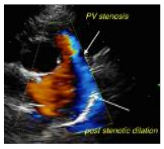
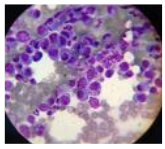
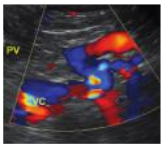

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Normal visible colon wall layers were present with semi-formed to soft fecal matter, consistent with patient history.

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 was evident.

Free Abdomen

No omental masses, lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Compensated MR, exhibiting normal LA size and mild decreased LV contractility
- Mild TR- no evidence of clinical pulmonary hypertension
- Hepatomegaly, exhibiting mild parenchyma hyperechogenicity- vacuolar hepatopathy, inflammatory/immune mediated disease, i.e., nonspecific hepatitis (viral, bacterial, leptospirosis, toxin, etc.), lipidosis, hyperplasia, hematopoiesis, infiltrative neoplasia are all potentials.
- Subjective mild chronic cholecystitis pattern- not consistent with mucocele criteria
- Bilateral chronic renal changes, exhibiting nonuniform cortex hyperechogenicity, nonspecific nephritis, i.e., interstitial or glomerulonephritis, cortical or nephrosclerosis, chronic renal disease, calcinosis, cortical scarring or other nephropathy are all potentials. No overt evidence of neoplastic criteria.
- Prominent adrenal glands- suspect stress or benign hyperplasia
- Gastroenterocolitis pattern
- Distended urinary bladder

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The mild decreased LV function is suspected to be secondary to systemic disease, without evidence of left or right heart chamber enlargement or DCM criteria. The lack of left atrium enlargement indicates that the risk of future complication at this stage secondary to MR is low. No overt indication for cardiac medications.

Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered. Assuming normal clotting status, using a 25-gauge needle, hepatic FNA cytology could be considered for further assessment. Infectious disease serology could be considered if clinically indicated. Urinary catheter passage to assess urethral patency is suggested.

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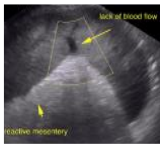
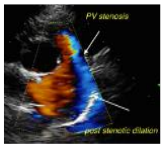
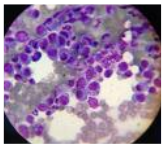
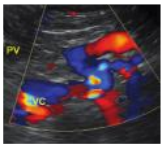

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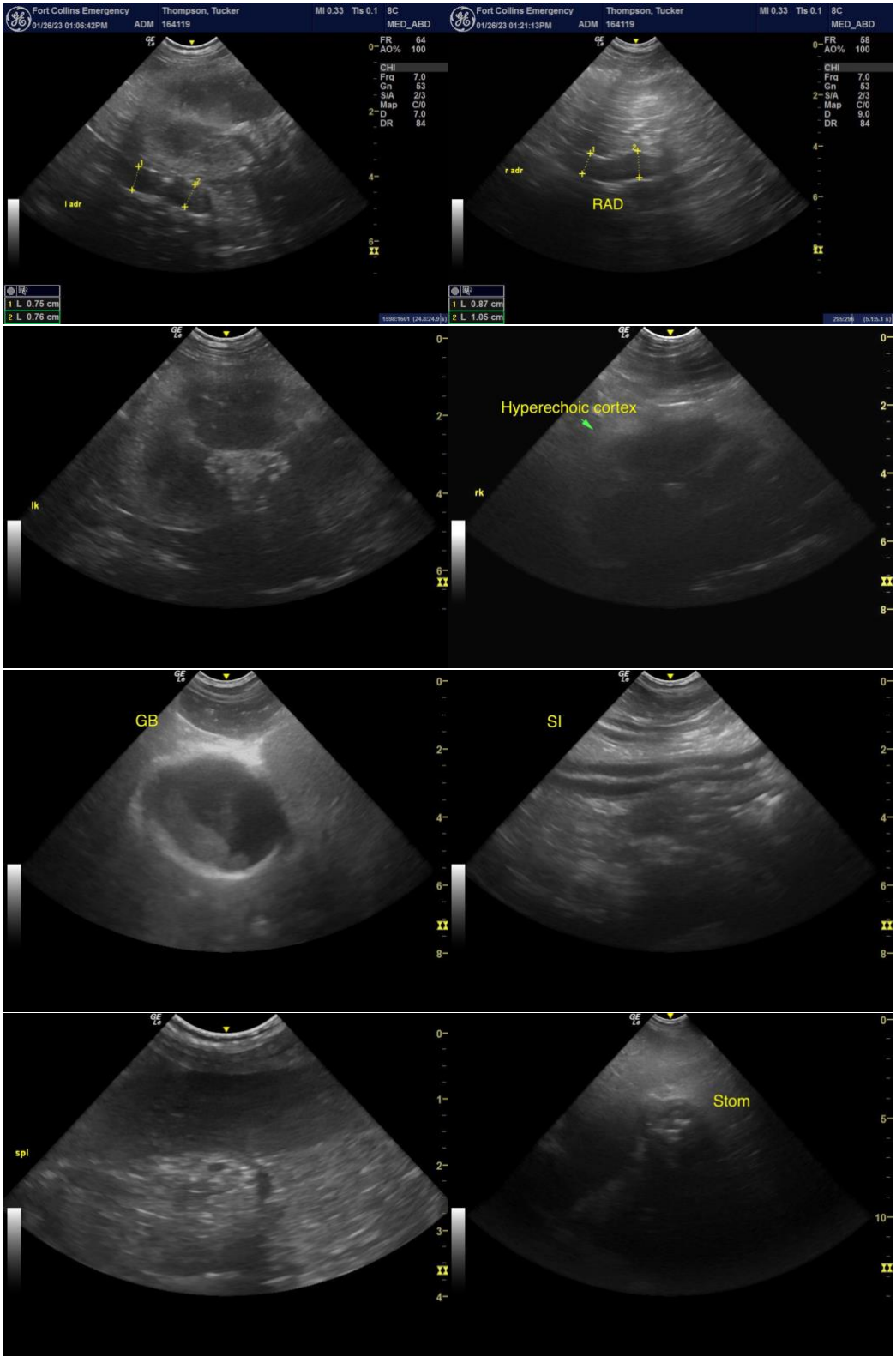

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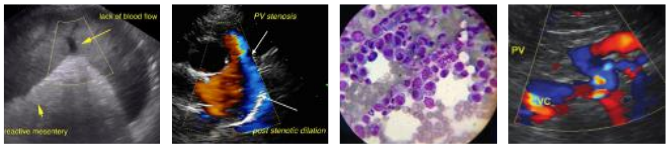

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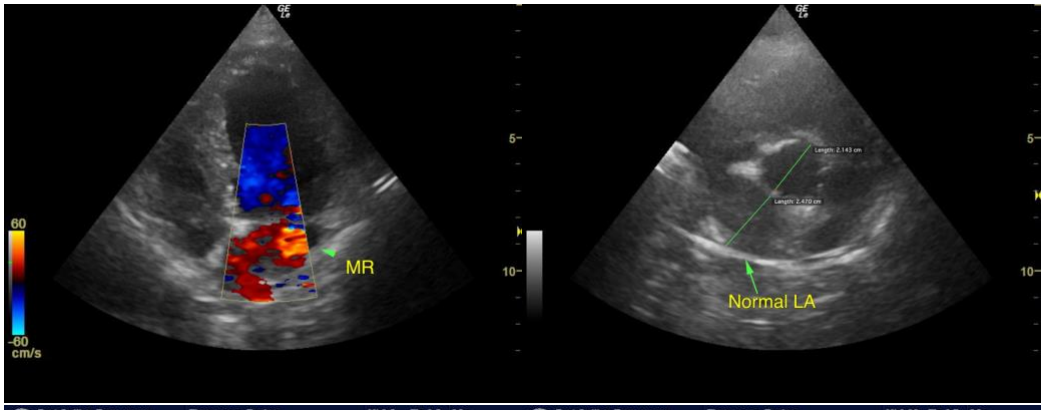

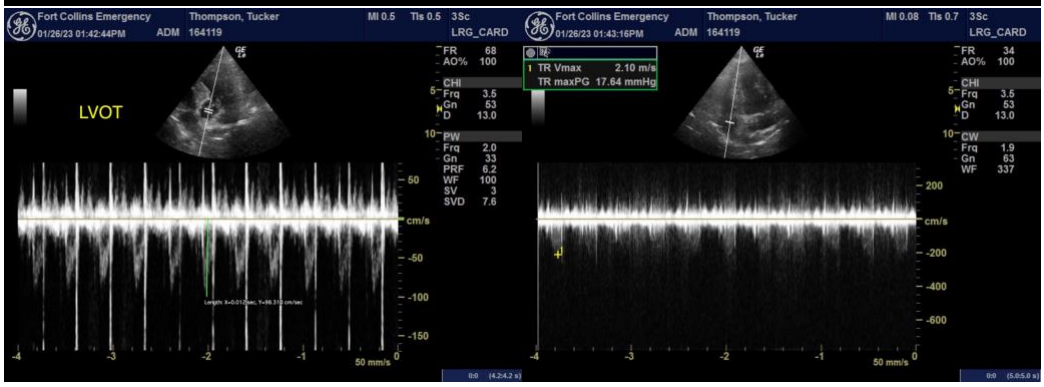

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
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