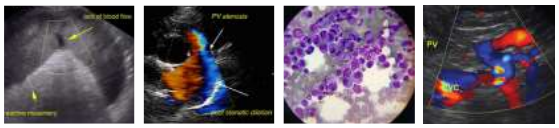

PATIENT

Lulu Yamanaka

SPECIES

Canine

BREED

Pit Bull Mix

SEX

FS

AGE

15 years

WEIGHT

50.5 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

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PRESENTING CLINICAL SIGNS

Escalation in frequency and severity of GI signs displayed intermittently x 2 months. Signs of mucoid to blood tinged diarrhea, anorexia were 1-2x/month, escalation as of 12/31 with vomiting in addition to "blow out" mucoid bloody diarrhea and anorexia. Appetite still poor, stool still unformed but no longer urgent. Intermittent hematuria without signs of cystitis reported in December. Metronidazole use initiated at 1/1/22 exam. Received a course of Clavamox in mid December due to surprise finding of neutrophilia and left shift on 12/14/2021 panel. Arthritic patterns managed with Galliprant since mid December, no use since 12/31/21. Progressive elevation in ALT, ALP liver enzymes since 2020. 10% weight loss (5.5 pound loss) since late November. Acute on chronic hepatopathy suspected, with possible neoplasia, infection and/or necrosis causing leukocytosis with left shift and toxic changes. Abnormal PE/Chem/CBC/UA Results: Chronic hepatopathy since 2020. Gradually rising trends. ALT 284 (11/2020), 423 (3/2021),389 (5/2021), 516 (12/2021). ALP 160 (11/2020), 255 (3/2021), 296 (5/2021), 440 (12/2021). 12/14/2021 panel other findings: Marginal creatinine with well concentrated urine. Strongly suspect delayed serum separation with artifactual low glucose- lacking clinical correlation. Proteinuria likely secondary to systemic inflammation (leukocytosis with left shift). Refer to emailed results. Open cause of left shift/granulocytosis which was unexpected on 12/14/2021 panel (tWBC 33.9K, 26.4K neutrophils, 4% bands) now (1/1/2022 draw) tWBC 23.1K, 17.8K neutrophils, 9% (2079 absolute) bands. Recent CBC additionally shows toxic neutrophils and Dohle bodies.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

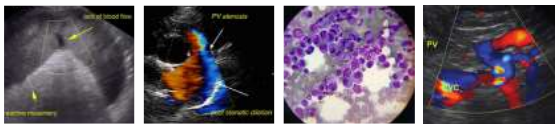
The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no sediment or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic criteria was noted.

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. The left kidney measured 7.0 cm in length. The right kidney measured 7.5 cm in length.

Adrenal Glands

The bilateral adrenal glands exhibited prominent size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.83 cm width in the cranial pole and 1.1 cm width in the caudal pole. The right adrenal gland measured 1.1 cm width in the cranial pole and 0.76 cm width in the caudal pole.



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Spleen

The spleen exhibited subjective generalized enlargement yet primarily maintained a symmetrical capsule contour. Generalized parenchyma heterogeneity exhibiting intermittent discreet hypoechoic nodules was present.

Liver/ Gallbladder

The liver exhibited mild to potentially moderate generalized enlargement with normal structure and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion. No hepatic masses or nodules were noted. The gallbladder was non-distended in size with moderate, nondependent, particulate yet nonorganized gallbladder debris. No evidence of gallbladder or peripheral Inflammation was noted. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented mildly prominent gastric walls secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with subtle retained anechoic fluid was present in the gastric lumen without evidence of retained Ingesta, fluid, or foreign material. The ventral gastric body wall width measured 0.7 cm.

The small intestine presented intact wall layering with subjective propensity for segmentally prominent to echogenic submucosa and subtly prominent muscularis layer. The jejunum wall width measured 0.25 cm.

The colon walls presented intact yet subjective mild prominent wall layering with mild thickened to echogenic submucosa. Semi-formed feces was present in the colon lumen with lumen dilation. The distal descending colon wall width measured 0.25 cm.

Pancreas

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

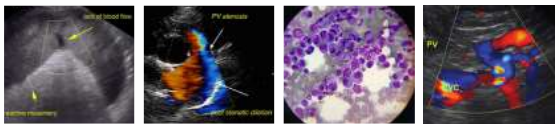
Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Hepatopathy - subjectively benign - vacuolar / reactive hepatopathy, immune-mediated / inflammatory disease, hepatic neoplasia considered a less likely differential diagnosis
- Moderate gallbladder debris (non-mucocele)



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- Mild splenomegaly exhibiting intermittent discreet hypoechoic nodules- benign hyperplasia, hematopoiesis, incidental splenitis possible, potential for early splenic neoplasia cannot be definitively excluded
- Suspect inflammatory enteropathy / enterocolonopathy - enteritis / enterocolitis, potential for inflammatory bowel with colitis - potential for early neoplastic infiltrative enteropathy is considered a less likely differential diagnosis

Secondary Findings

- Mild age-related kidneys
- Bilateral subjectively prominent adrenal glands - unclear clinical significance

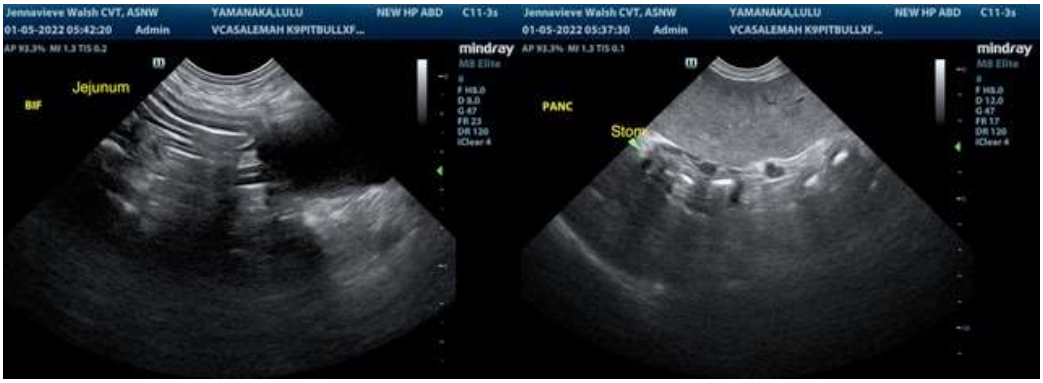
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assuming normal clotting status, ultrasound-guided hepatosplenic FNA using a 25-gauge needle is warranted for screening cytology.

A GI panel to include PLI/TLI/Cobalamin/Folate is recommended.

Hepatosupportive medications including Denamarin and Ursodiol may prove beneficial.

Empirically, a limited antigen or hydrolyzed diet trial with potential long term dietary therapy, prophylactic deworming (Panacur 50 mg/kg SID x 5 consecutive days with repeat protocol in 3 weeks even if fecal testing is negative), high colony count probiotic (Proviable or Visbiome), antibiotic trial and as needed gastrointestinal support with assessment of clinical response may prove beneficial. Endoscopic intestinal biopsies may be indicated if GI signs continue despite empirical therapy.



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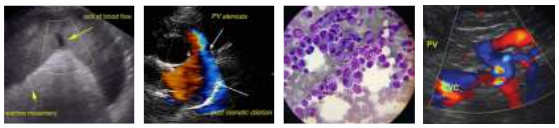

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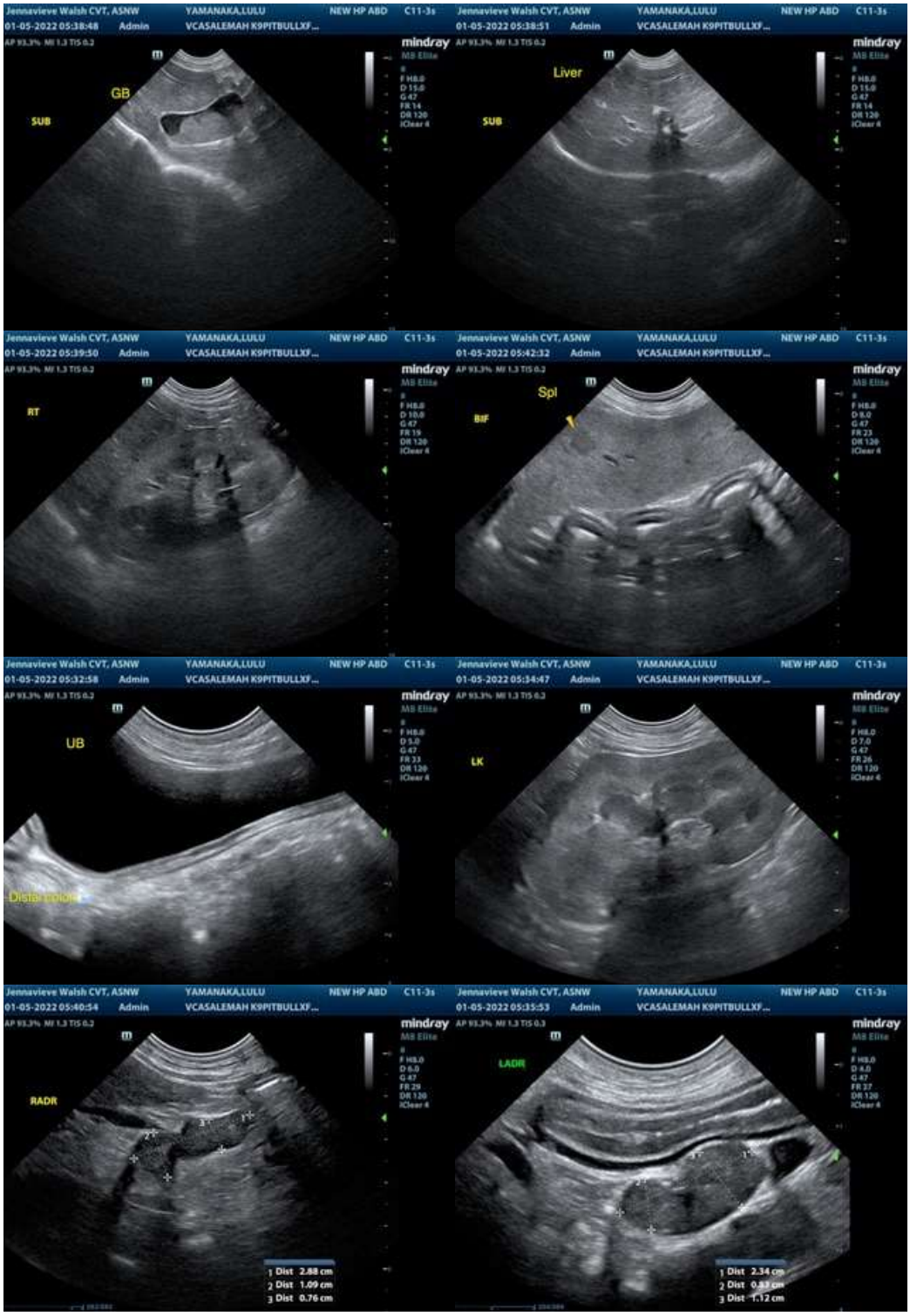

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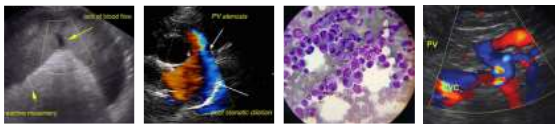

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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