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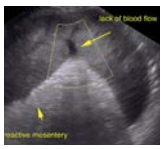
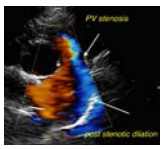
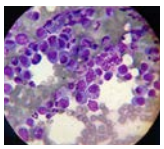
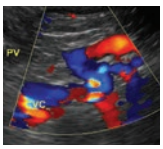





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Bailey McCowan

SPECIES

Canine

BREED

Shih Tzu

SEX

Neutered Male

AGE

15

WEIGHT

22 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Dr. Danielle Lanz

HOSPITAL NAME

New Holland VH

REFERRING VET

Dr. Danielle Lanz

INVOICE

44838

DATE

2/8/23

PRESENTING CLINICAL SIGNS

Waxing and waning appetite. Intermittent GI signs (vomiting and diarrhea since October). Resolves with supportive care. Otherwise acting WNL. Currently on fluoxetine, and vetmedin. Difficult to medicate. Abnormal PE/Chem/CBC/UA Results: ALP 820 SDMA 16 BUN 39 Creatinine 1.0 Na:K ratio 27 Chloride 104 Triglyceride 240 Lipase 824 Grade 3/6 systolic HM Grade 3/4 periodontal disease

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with mild primarily suspended echogenic debris and some dependent shadowing/sandy debris present. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or calculi. Echogenic debris of this type can be associated with small crystals, sandy debris or small calculi. Correlate findings with abdominal radiographs, urinalysis and culture.

The prostate is normal in size (0.73 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (4.62 cm) with numerous small mineralizations/nephroliths-. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a relatively normal shape but appears somewhat flattened in appearance. It measures 5.22 cm in length. Overall echogenicity is hyperechoic with extremely poor corticomedullary distinction and almost no normal architecture visible. There is mild pyelectasia at 0.24 cm and no evidence of focal perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal. Findings are most consistent with a dysplastic kidney.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.69 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

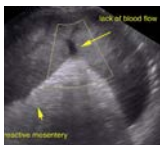
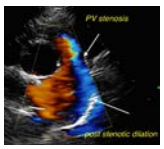
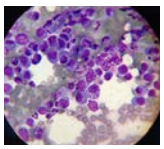
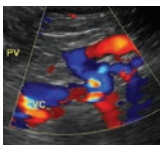
The right adrenal gland is normal in size measuring 0.64 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. On the left side of the liver, there is a small hypoechoic nodule visualized measuring 0.91 cm and a hyperechoic nodule measuring 1.01 cm.

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The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris and there is organization and stranding of this debris into a mucocele. There is minimal surrounding inflammation and no obvious free fluid observed. The bile duct is normal/not visible. Findings are consistent with a mucocele. Consider close monitoring and initial medical management.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Jejunum wall measures 0.38 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

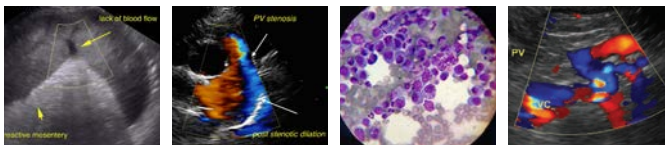
The area of the pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Small amount of echogenic debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, mucus, and/or small stones. Recommend urinalysis and culture and correlate with abdominal radiographs.
- Decreased corticomedullary distinction in both kidneys with small left-sided nephroliths and a likely dysplastic right kidney. The right kidney has minimal normal architecture and could be dysplastic, or there could have been early renal damage. The left kidney has more of a normal appearance with age related changes and some small nephroliths.
- Large, heterogeneous liver with occasional hyper- and hypoechoic nodules – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The appearance of these nodules trends towards more benign lesions, although underlying neoplasia cannot be ruled out.
- Large, distended gallbladder with thickened wall and stranding intraluminal mucus/debris – Findings are most consistent with a mature mucocele. There is a hint of mild surrounding inflammation.
- Subjective small intestinal thickening – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory



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bowel disease).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The gallbladder is significantly distended with the appearance of a mucocele. There is a mild amount of surrounding hyperechoic tissue, which could represent inflammation. This is concerning for an active mucocele, and it is possible that the symptoms described are associated with this lesion. Options moving forward would include referral to a surgeon for cholecystectomy, or possible medical management with Ursodiol +/- antibiotics and probiotics (administered 1 hour after antibiotics) and reevaluation of liver values and the gallbladder with ultrasound in 2-4 weeks. My impression is that medical management seldom fully resolves the problem, but I would understand the desire for conservative management with a pet of this age. If there is a significant clinical decline, recommend emergency reevaluation for the possibility of progression of this lesion to a surgical emergency.

The liver is large and heterogeneous and there is some ill-defined hyper- and hypoechoic nodules. The appearance of these nodules trends towards benign lesions. Continued monitoring is warranted. Additionally, a fine needle aspirate of these lesions could be considered if there is concern.

There are age related changes visualized associated with both kidneys, and the right kidney is devoid of typical architecture. There is concern that this is a dysplastic kidney. Recommend blood pressure, urinalysis and culture to obtain a baseline.

Additionally, the small intestine appears somewhat subjectively thickened with normal intact layering. If further evaluation for GI disease is desired, you could consider a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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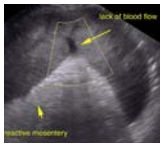
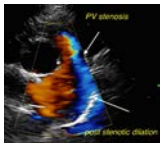
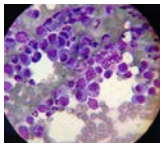
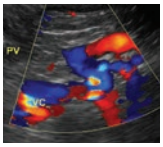

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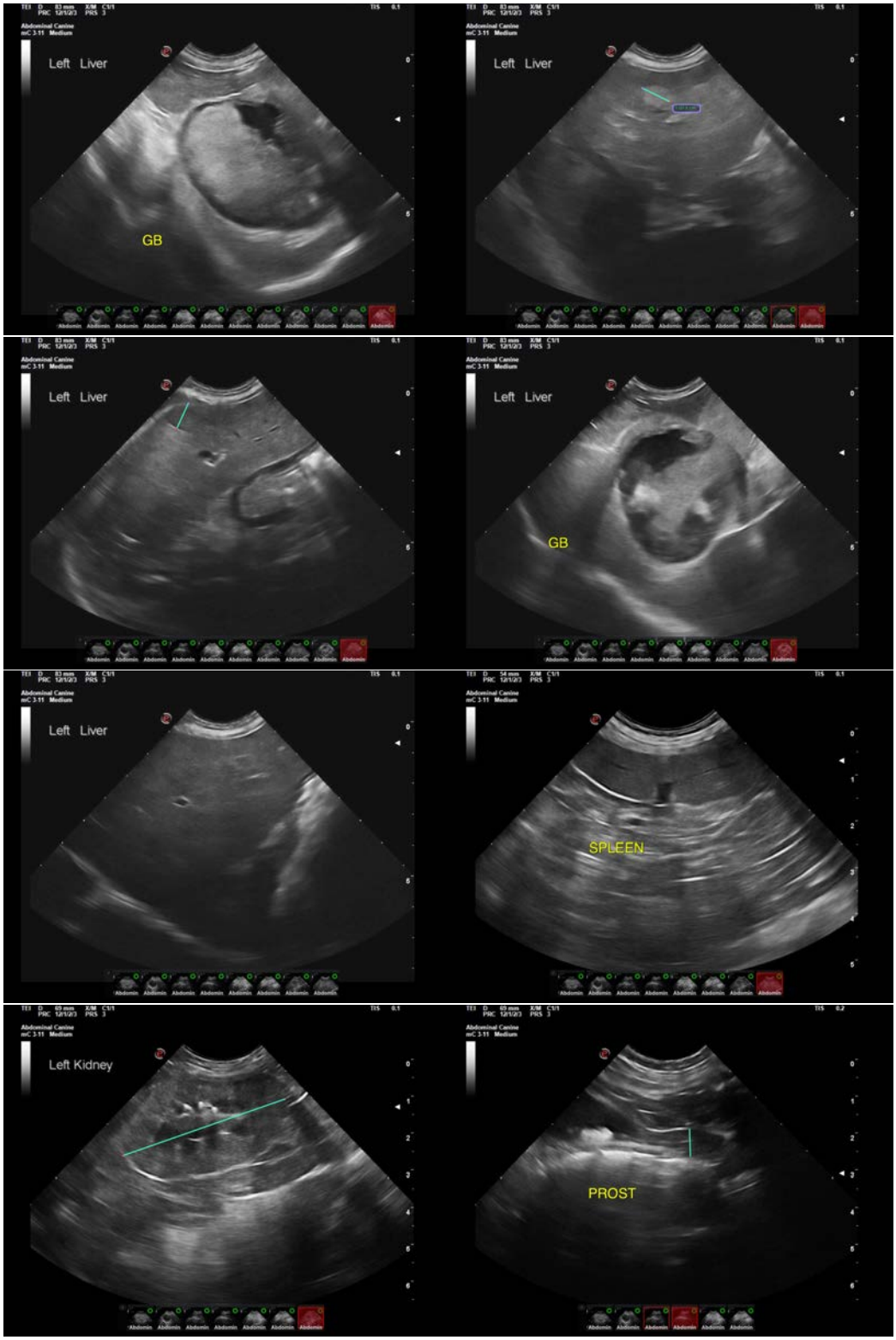

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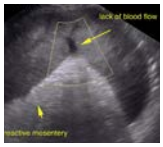
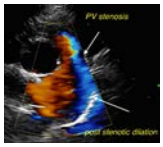
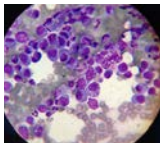
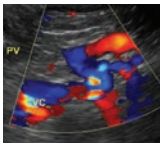

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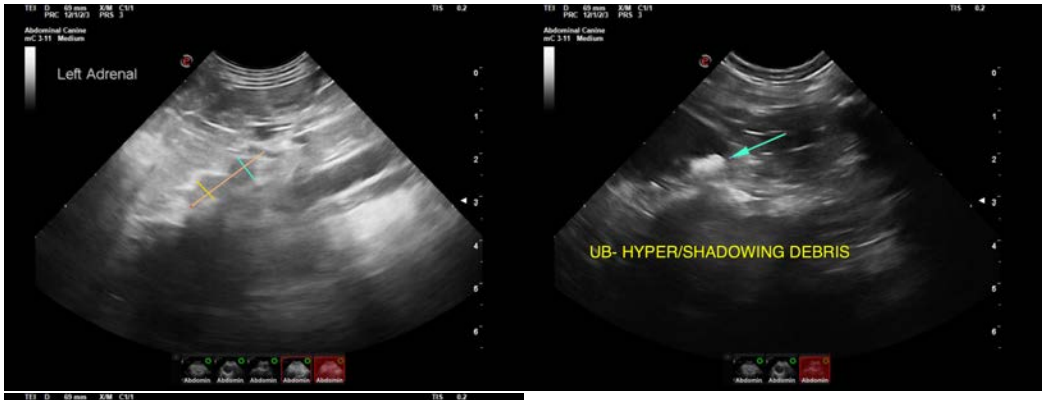

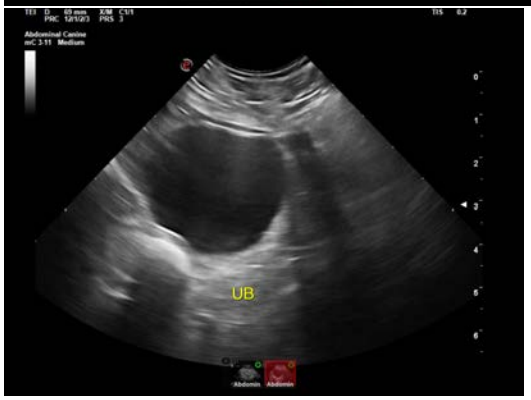

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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