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Clinical Sonography & Telecytology
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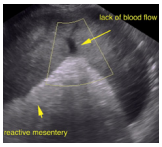

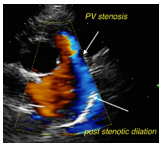

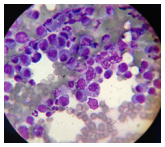
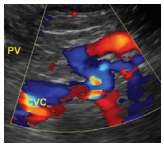

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Remi Jacobs

SPECIES

Canine

BREED

Shih tzu

SEX

Female Spayed

AGE

14 ½ years

WEIGHT

8 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Scott

HOSPITAL NAME

Ho Ho Kus Veterinary Hospital

REFERRING VET

Dr. Scott

INVOICE

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2/10/2023

PRESENTING CLINICAL SIGNS

Hx of renal disease, PLN, pancreatitis currently concerned about PLE
Abnormal PE/Chem/CBC/UA Results: performed elsewhere.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened (0.5CM), and the mucosa is mildly irregular. The trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of severe mucosal irregularities, masses, or cystic calculi. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

The left kidney has a normal shape and size (2.9cm) with mild pyelectasia measuring 0.23cm. 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (3.0cm). 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.

Adrenal Glands

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

There's a structure in the region of the right adrenal which appears somewhat irregular and could be consistent with an enlarged right adrenal. This structure measure at 1.39cm at the cranial pole, 0.64cm at the caudal pole, and 1.83cm in length. This could represent an enlarged adrenal, a mass effect, etc. I suspect sedation and a higher resolution probe would be necessary to fully evaluate this area.

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.

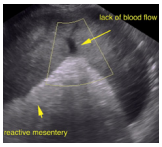
Liver

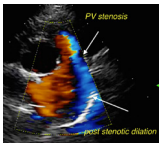
The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

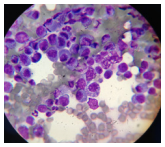
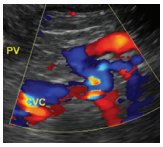
The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach is dilated with a large amount of fluid and gas within the lumen. 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. Although most





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of the pyloric region appears relatively unobstructed (but fluid dilated) an obstruction of the pyloric outflow tract cannot be fully excluded (mass effect or foreign material) but seems unlikely.

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. The duodenum measured 0.47cm in diameter and the jejunum measured 0.42cm in diameter. 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 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

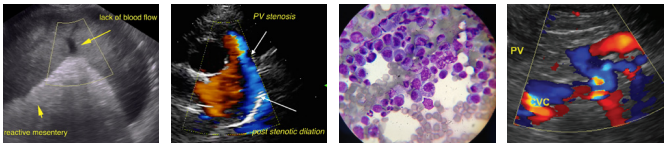
Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Thickened irregular urinary bladder wall - The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.
- Decreased corticomedullary distinction in both kidneys with left sided pyelectasia- Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the kidney(s)could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Large heterogenous liver - 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.
- Large fluid distended stomach. Correlate with feeding history. If the patient was adequately fasted, this could represent a delayed gastric emptying or a pyloric outflow tract obstruction (none clearly visualized, but still possible).
- Questionable right adrenal enlargement. – There's a suspicion of a prominent/large right adrenal. This could represent anatomic variation or a mildly enlarged adrenal, correlate with clinical signs. Consider a blood pressure evaluation and/or reimaging with sedation and possibly a higher frequency probe?
- Diffuse thickening of the small intestine - The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The changes in the kidneys are consistent with chronic age-related renal disease and likely the protein losing enteropathy described in the history. Additionally, there's a thickened irregular urinary bladder



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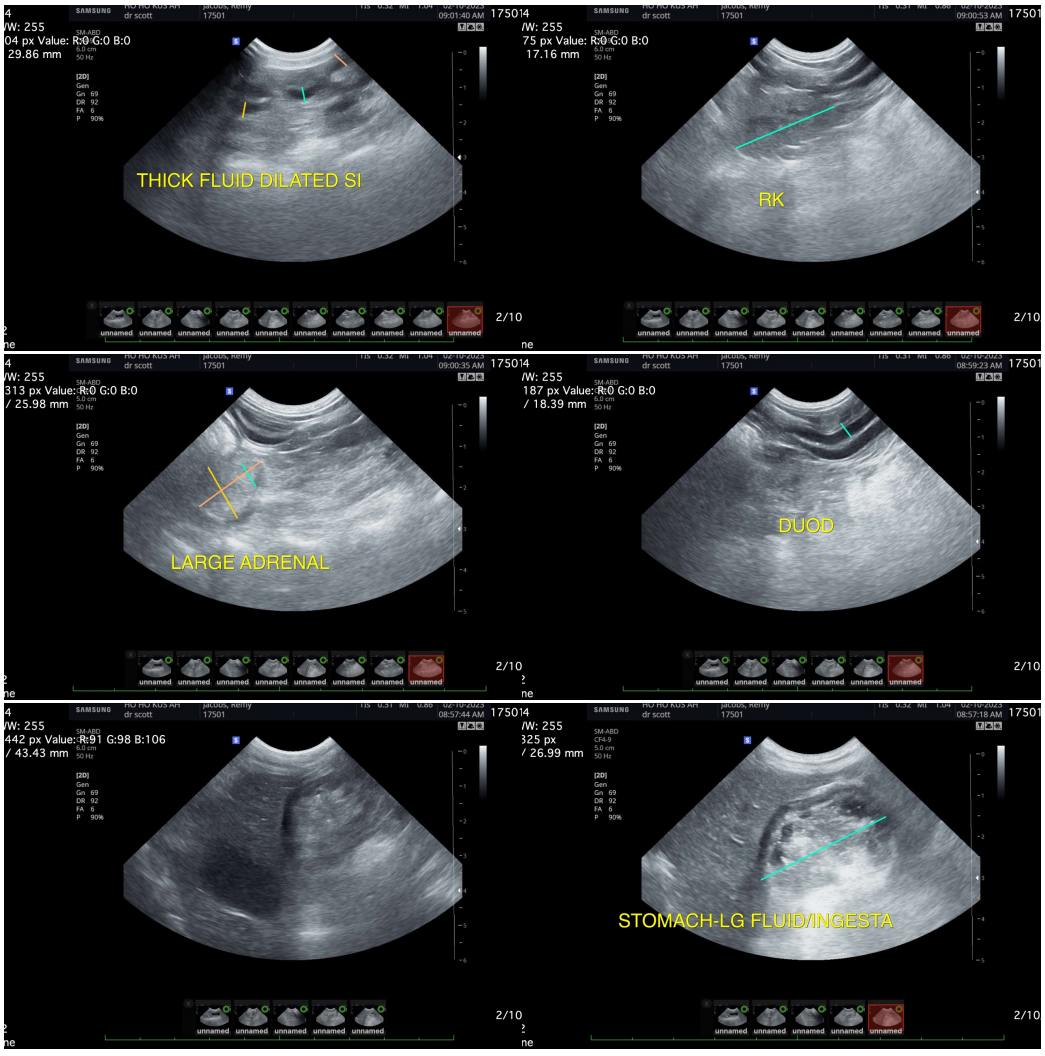
wall. Correlate these findings with a urinalysis and culture. If there's no evidence of infection, recommend revaluation with a more distended urinary bladder.

The liver is large and heterogenous. This a nonspecific finding. If significant liver enzyme elevations are present, consider a liver function test and a fine needle aspirate.

The small bowel appears generally thickened, possibly with some fogging secondary to edema. These findings could be consistent with a protein losing enteropathy. This can be difficult to discern with concurrent protein losing nephropathy, so consider a GI panel to Texas A&M for qualitative PLI/TLI cobalamin and folate looking for supportive evidence of concurrent GI disease. If a protein losing enteropathy is strongly suspected, consider biopsies of the GI tract.

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

The stomach is significantly distended with fluid and ingesta. Recommend continued monitoring in correlation with abdominal radiographs looking for any evidence of obstruction.



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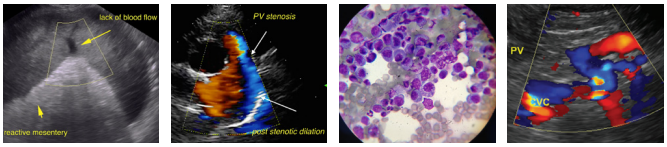

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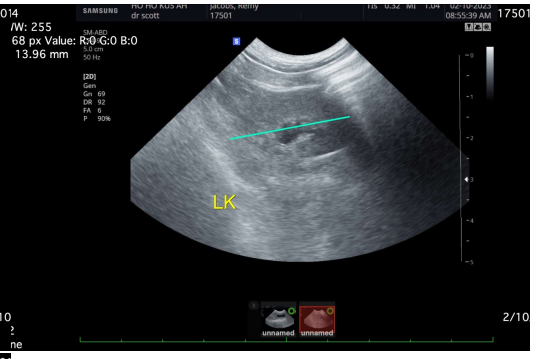

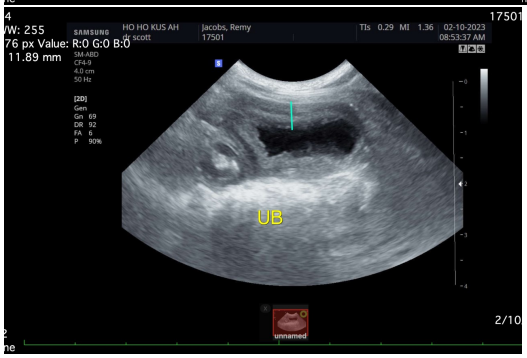

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com