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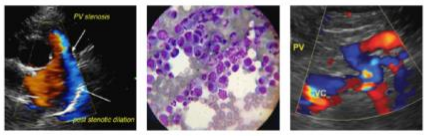

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PATIENT

Sargent Pepper Reed

SPECIES

Canine

BREED

Collie

SEX

Neutered Male

AGE

10 Years

WEIGHT

96 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

REFERRING VET

Rochester Vet Hospital

INVOICE

37440

DATE

5/5/22

PRESENTING CLINICAL SIGNS

decreased appetite, elevated kidney values, diarrhea, decreased albumin, weight loss
Abnormal PE/Chem/CBC/UA Results: azotemia, hypoglobulemia

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. 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 cystic calculi.

The prostate is normal in size (1.3 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 (7.04 cm) with mild pyelectasia at 0.30 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.89 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.66 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is slightly irregular in appearance in that there is a small hyperechoic focus in the caudal pole of the adrenal gland. This lesion does not impact the size or shape of the adrenal gland and is most consistent with a hyperechoic focus on the caudal pole.

The right adrenal gland is normal in size measuring 0.68 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 irregular. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. The caudal aspect of the liver is very irregular with scalloped, rounded edges and nodular silhouette. The left side of the liver appears somewhat moth eaten and heterogeneous. There are some deeper sections of the liver that appear more normal and have a smooth texture. The caudate lobe as well appears very irregular and nodular.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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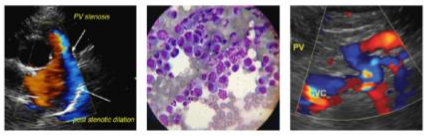

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Gastrointestinal

The stomach contains mild 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. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measured 0.36 cm. Jejunum wall measured 0.33 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 pancreas is prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

There is a scant amount of free abdominal fluid. No lymphadenopathy is noted, but the omentum is of increased echogenicity around the abnormal liver and region of the pancreas.

PRIMARY FINDINGS

- Hyperechoic focus visualized in the caudal pole of the left adrenal gland – The significance of this is unclear, as this lesion does not deform the adrenal gland. This could be a benign incidental finding, or may be consistent with a very early neoplastic lesion. Recommend blood pressure evaluation and continued monitoring.
- Decreased corticomedullary distinction in both kidneys with mild left-sided pyelectasia – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the left kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Hypoechoic, prominent pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Large, severely heterogeneous and irregular liver with indistinct nodules – The liver is large and irregular with a somewhat nodular effect and possibly ill-defined masses. Additionally, the tissue surrounding the liver is very hyperechoic and reactive.
- Scant free abdominal fluid and severe cranial abdominal inflammation – Findings could be secondary to reactivity in the region of the liver or pancreas.

SECONDARY FINDINGS

- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

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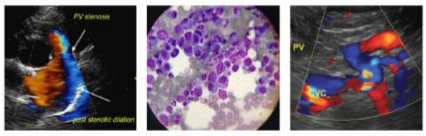

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

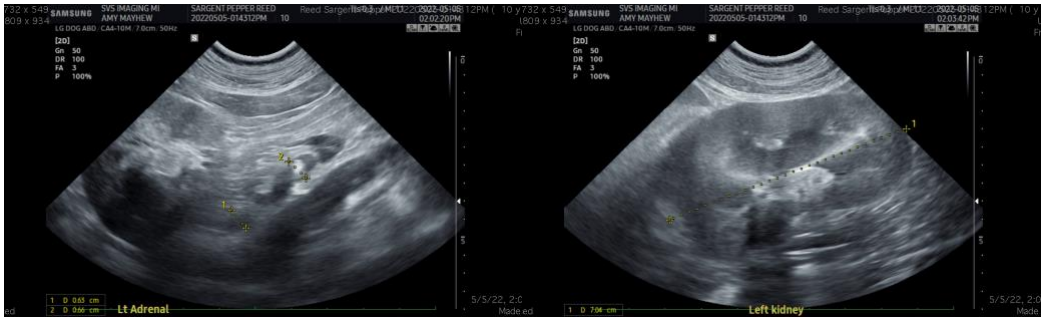
The cranial abdomen appears very hyperechoic and inflamed. There is a small amount of free abdominal fluid present. This primarily appears centered around the liver, which is irregular and nodular, although the pancreas is prominent. Ideally, a contrast CT scan would be performed to get a global view of the liver and better determine the nature of the abnormal/nodular areas (what percentage of the normal liver does this effect?). A fine needle aspirate of the liver and liver function testing would be a good place to start, provided coagulation parameters are normal.

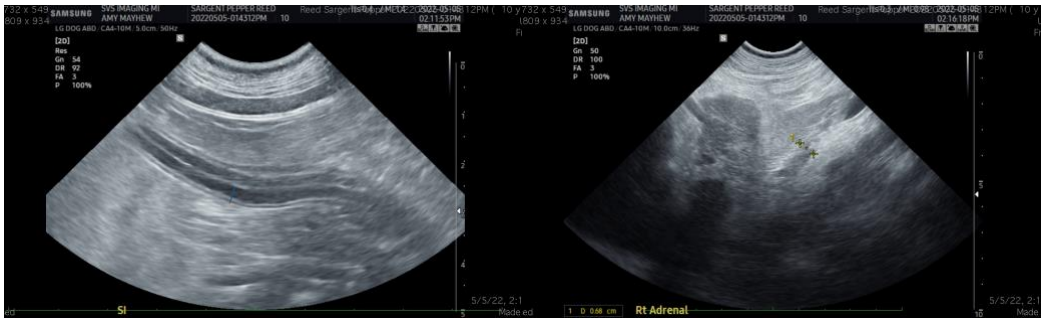
The changes observed in the kidneys are consistent with the azotemia and elevated kidney values reported. These changes are most consistent with chronic renal disease, but acute renal disease due to pyelonephritis, Leptospirosis, etc. are possible. If this is acute in onset, then recommend urinalysis, culture, blood pressure evaluation, and Leptospirosis testing. A urine protein to creatinine ratio should be performed to determine the level of protein loss present.

The GI tract appears relatively normal on ultrasound. I was concerned about this being a source for the low albumin reported. If this is suspected, consider a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreas and small intestine. In regards to the diarrhea, consider a novel protein/hydrolyzed protein prescription diet, chronic probiotic therapy, and the possibility of GI biopsies if the diarrhea doesn't resolve. This diarrhea could also be secondary to liver disease, etc.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

There is a small hyperechoic focus in the left adrenal gland. This is not creating a mass effect, and given the concurrent issues going on, I would confirm that there is no hypertension present (making a pheochromocytoma less likely), and recommend continued monitoring with ultrasound in case this is an early mass lesion.





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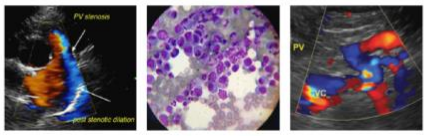

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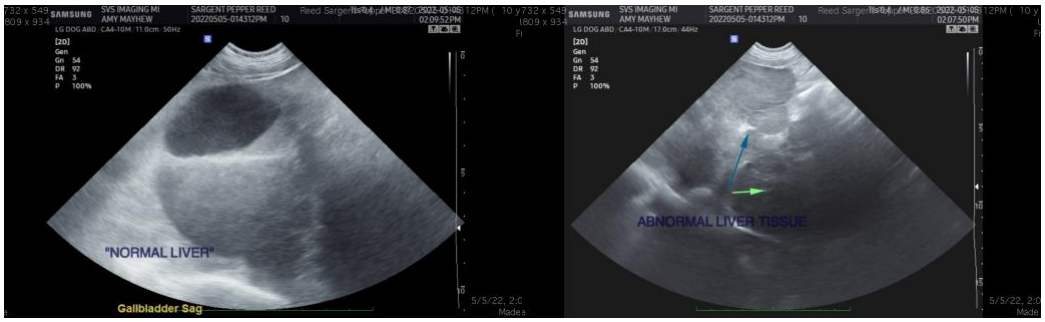

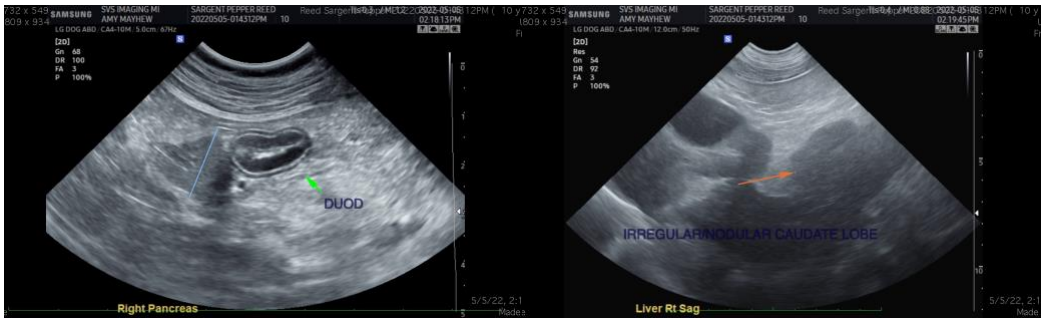

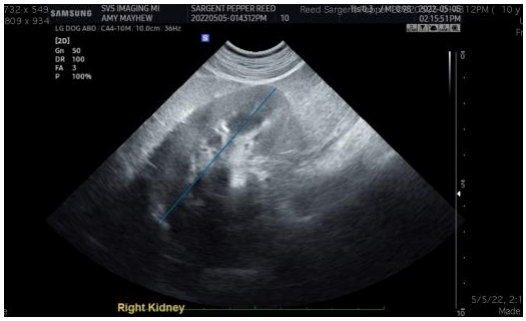

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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