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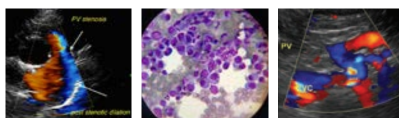

SonoPath
Clinical Sonography & Telecytology
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DATE
5/31/22

PATIENT
Oscar Lesniewski

SPECIES
Canine

BREED
Shih Tzu

SEX
Neutered Male

AGE
2/15/09

WEIGHT
26.1 Pounds

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

IMAGING PERFORMED BY
Rachel Brilhart RDMS

HOSPITAL NAME
Creswell Vet Clinic

REFERRING VET
Dr. Cullum

INVOICE
38100

PRESENTING CLINICAL SIGNS

Hx of increased frequency of urination, hematuria, weight loss.

Current Medications: Clavamox 125mg BID for 10 days starting 5/25/22.
Lab Results: See attached.
Radiographs: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly distended with anechoic urine. The Bladder wall is diffusely thickened and irregular, measuring approximately 0.41 cm in thickness. There is some irregularity in the region of the ureteral papillae, where a dilated left ureter is visualized measuring 0.42 cm. This could be consistent with a focal mass lesion/obstructive lesion, or could be consistent with the diffuse bladder wall thickening visualized. Recommend urinalysis and culture.

The prostate is normal in size (0.96 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 (5.01 cm). Early hydronephrosis is evident with the renal pelvis at 0.98 cm, and hydroureter is visualized with a dilated ureter visualized proximally in the mid abdomen and at the level of the ureteral papilla, measuring approximately 0.40 cm in diameter with no obvious obstruction seen.

The right kidney has a normal shape and size (5.0 cm) with mild pyelectasia at 0.46 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size and irregular, measuring 1.55 cm at the cranial pole, 1.62 cm at the caudal pole, and 3.42 cm in length. It is observed in its normal position cranial to the left renal artery. It is very atypical in appearance in that it is large, irregular, heterogeneous, and impinges on the local vasculature due to its size. Obvious evidence of vascular invasion is not visualized.

The right adrenal gland is large in size measuring 1.42 cm at the cranial pole, 1.2 cm at the caudal pole, and 4.46 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is very abnormal in appearance in that it is large, irregular and heterogeneous with a focal hyperechoic lesion mid adrenal, measuring 1.68 cm x 1.21 cm. While no obvious vascular invasion is visualized, the lesion does impinge on local vasculature.

Spleen

The spleen is prominent with rounded margins. The spleen echotexture is heterogenous and mottled. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

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

The gallbladder 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 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 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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 large and hypoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is evidence of regional mesenteric inflammation. Consistent with mild pancreatitis.

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

- Irregular thickened urinary bladder with irregularity at the level of the left ureteral papilla – This is largely a diffuse lesion, but with the hydroureter evident, there could be a focal obstruction evident at the ureteral papilla, but an obvious focal obstructive mass lesion is not observed. Recommend urinalysis and culture.

- Bilateral severe adrenomegaly with irregular, large, nodular adrenals and a right-sided adrenal nodule – These findings could be consistent with bilateral hyperplasia, metastasis to the adrenal glands, or bilateral adrenal masses.

- Left-sided mild hydronephrosis and hydroureter – An obvious obstructive lesion is not observed, although the bladder wall is irregular and the level of the left ureteral papilla. This could be contiguous with the irregular thickened urinary bladder, or consistent with a mass effect.

- Mottled, rounded spleen – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.

- Prominent, hypoechoic pancreas surrounded by hyperechoic mesentery – The pancreatic changes are most consistent with mild pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.

- Heterogeneous 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.

- Early gallbladder mucocele – There is no surrounding inflammation or fluid visualized. Consider medical management with continued monitoring.

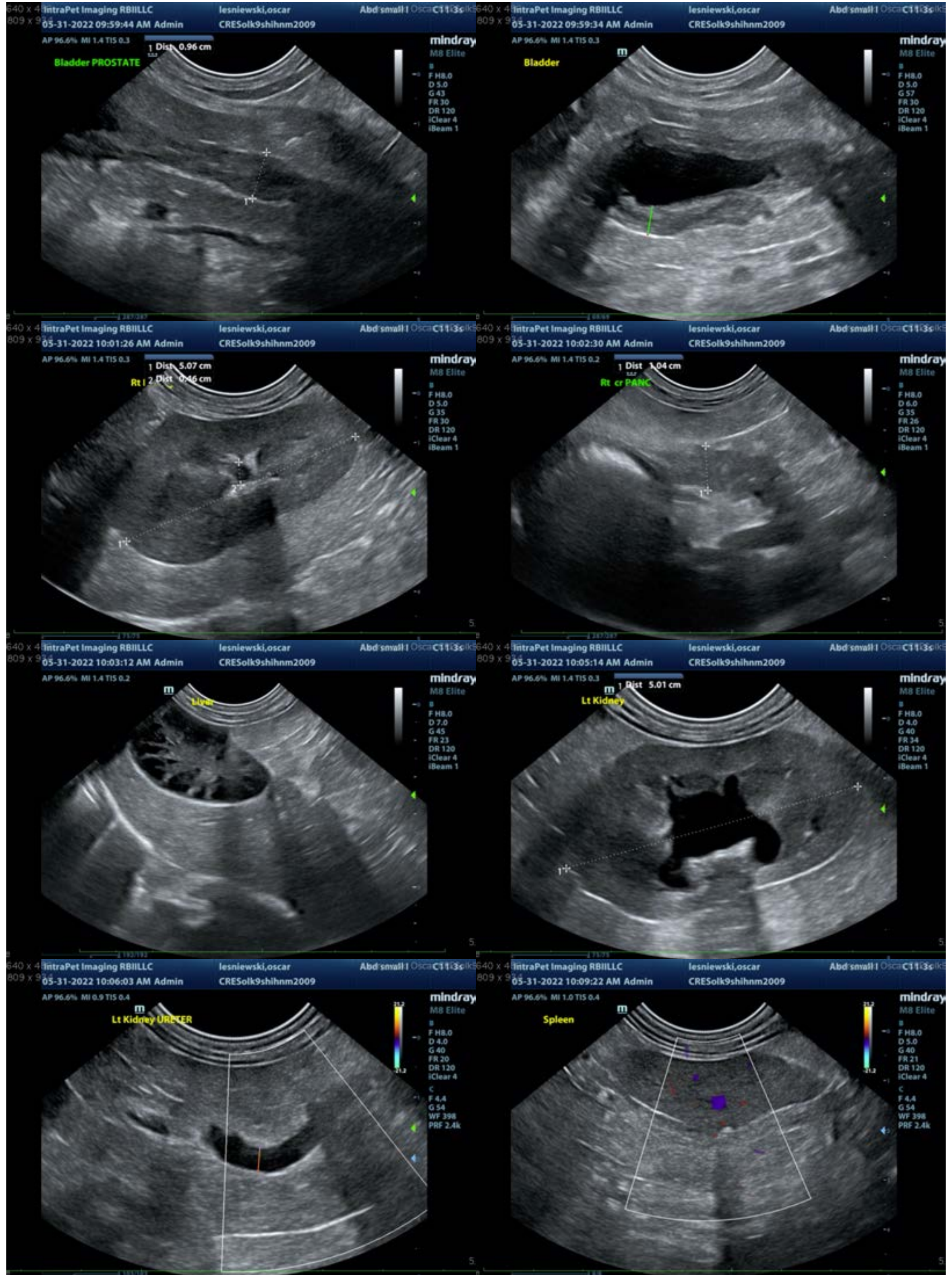
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The urinary bladder wall is thickened and irregular. Lack of urine distention makes this lesion difficult to assess. Additionally, there is mild hydronephrosis and hydroureter on the left side, increasing my concern for a possible obstructive lesion at the level of the ureteral papilla or trigone. The tissue in this area appears irregular, but a focal obstructive mass lesion cannot be distinctly appreciated. Recommend urinalysis and culture. If an infection is present, then consider reevaluation of this area in 2-4 weeks (on antibiotic therapy) to re-culture and re-image the area to look for evidence of resolution of some of these lesions.

If the urine culture is negative, then options would include urine BRAF test (a positive BRAF test will increase suspicion for underlying neoplasia, a negative BRAF test is non-diagnostic), or a traumatic catheterization at the level of the trigone to try and identify the presence of any neoplastic cells. Additionally, a contrast study (contrast CT scan or IVP) could be considered to try and determine if an obstruction lesion is present (preference would be contrast CT scan).

Both adrenal glands are large, mass-like, and irregular. This could be consistent with severe bilateral hyperplasia, metastasis to the adrenal glands, or bilateral adrenal masses. Recommend a fine needle aspirate of the spleen +/- adrenal glands to look for possible evidence of metastatic neoplasia. Recommend blood pressure evaluation, and if signs of Cushing's are present, consider adrenal function testing (use caution due to the presence of other medical issues)-oddly the electrolyte changes reported are more consistent with a cortisol deficiency- it would be nice to confirm this is not present as well (rarely seen with bilateral adrenal disease- infarction etc..). Recommend 3-view thoracic radiographs and rechedk of the electrolytes. If a diagnosis cannot be obtained based on cytologic evaluation, consider a contrast CT scan to further evaluate the adrenal glands and obtain more information regarding the left kidney and urinary bladder.

The pancreas appears somewhat hyperechoic and inflamed. If there is no obvious evidence of pancreatitis, then consider conservative therapy and continued monitored. I suspect the hepatic changes are age related, or consistent with the changes observed in the adrenal glands (vacuolar hepatopathy?). There is an early mucocele evident in the gallbladder with no surrounding inflammation. Correlate with bloodwork findings. This could be incidental at this time and may not be the medical priority, but recommend starting Ursodiol and close continued monitoring, as this could progress to a surgical lesion.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Spleen
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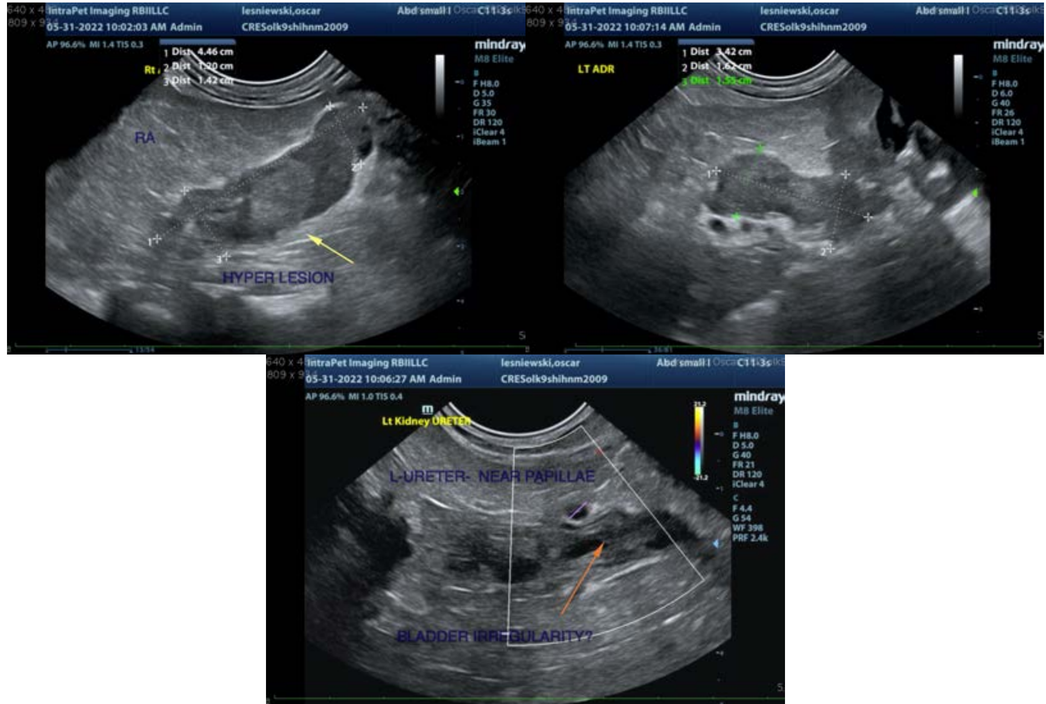

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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