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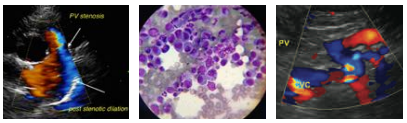

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DATE
3/8/22

PATIENT
Draco Kemfort

SPECIES
Canine

BREED
Pomeranian

SEX
Neutered male

AGE
4/5/07

WEIGHT
10.82 lbs

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

HOSPITAL NAME
All Creatures Veterinary Service

REFERRING VET
Dr. Meadows

INVOICE
96636

PRESENTING CLINICAL SIGNS

Long history of elevated liver values that have been treated with Denamarin and Ursodiol. Recently had two bouts of vestibular disease. Bloodwork showed worsening liver values and pet is now azotemic. Phosphorous and potassium elevated. Still waiting to get urine sample for UA. Rads show calculi in kidney vs. renal mineralization and irregularly shaped left kidney; calculi in bladder, enlarged. Liver. Pet is vaccinated for lepto.
Current Medications: Metronidazole 50mg/mL 0.8mL BID- started 2/23/22, Clavamox 62.5mg 1 ½ BID started 2/23/22. The following medications started before he came to our clinic in April 2021- Thyro tabs 0.3mg BID, Phenobarbital 16.2mg BID, Denamarin 90mg SID, Previcox 28.5mg SID everyday- just stopped 2/23/22 after renal value elevations noted, Theophylline 100mg BID, hydroxyzine 12.5mg BID, Cough tablets ½ BID every day, Ursodiol 25mg BID.
Radiographs: Calculi in kidneys vs. renal mineralization and irregularly shaped left kidney; calculi in bladder; enlarged liver.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Pearce RDCS, RVT.

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 or masses. There is a small pile of hyperechoic shadowing material in the dependent portion of the urinary bladder measuring 0.36 cm. This is most consistent with a pile of mineralized debris or small stones.

The prostate is normal in size (0.8 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 size (3.94 cm) and slightly irregular shape. 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 are too numerous to count, small cortical cysts and pyelectasia that measured 0.42 cm. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal size (3.98 cm). and slightly irregular shape. 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 are too numerous to count, small cortical cysts, small non-obstructive nephroliths and pyelectasia that measured 0.35 cm. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.6 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 0.5 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 or large) in size The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There are numerous, ill-defined, hypoechoic foci within the splenic parenchyma. The largest visualized measured 0.46 x 0.73 cm. These lesions do not deform the splenic capsule.

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. There is a large, solid, mixed echogenicity, hypoechoic mass effect in the mid body area of the liver measuring 4.23 x 2.81 cm. Additionally there is a large, cystic structure visualized on the left side measuring 2.92 x 3.79 cm and a smaller cyst on the right side measuring 1.7 cm in diameter. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. There is a large amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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 (0.31 cm) and the jejunum measured as normal (0.22 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 mottled 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
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
PRIMARY FINDINGS:

- Small amount of echogenic debris in the dependent portion of the urinary bladder. The findings are most consistent with sandy debris or stones. I recommend urinalysis and culture.

- Decreased corticomedullary distinction in both kidneys with numerous, small, cortical cysts, non-obstructive nephroliths and bilateral pyelectasia. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia

of both kidneys could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Mildly mottled spleen with hypoechoic foci. 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.

- Mottled prominent pancreas. The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

- Heterogenous liver with hypoechoic mixed echogenic mass and two small cysts. 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 mass effect could be consistent with a benign or neoplastic mass effect.

- Large, distended gallbladder with a large volume of adherent intraluminal contents and early organization. The findings are consistent with a developing mucocele.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are numerous, chronic, progressive lesions observed in this older pet. The current azotemia could be secondary to chronic progressive renal disease or most likely secondary to an acute exacerbation of chronic disease possible due to infection, dehydration, etc. An obvious focal obstruction is not observed, but continued monitoring is warranted.

- Recommend blood pressure evaluation

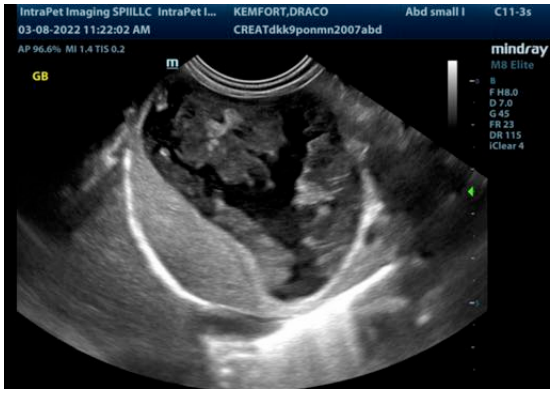
- Recommend urinalysis and culture

- Recommend diuresis and symptomatic treatment for renal disease

The gallbladder is very large with adherent debris and what I suspect is early development of mucocele. There is no surrounding inflammation evident so medical management with Ursodiol, Denamarin +/- antibiotics is reasonable with close monitoring. Additionally there is a mass effect in the liver. If surgical resection would be considered then a contrast CT scan of the abdomen can be considered. Otherwise, either continued monitoring with ultrasound or FNA could be considered.

The pancreas is somewhat prominent and some intercostal views appear somewhat inflamed. Concurrent treatment for pancreatitis in addition to diuresis for the kidney issues is warranted.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.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GB
mindray
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Liver
LIVER SMALL CYST ON RIGHT
mindray
M8 Elite


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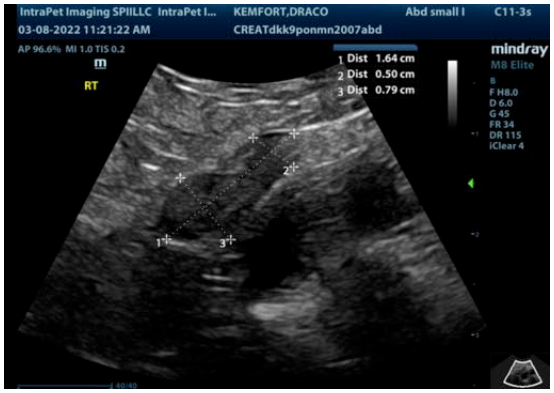
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3 Dist 0.79 cm
mindray
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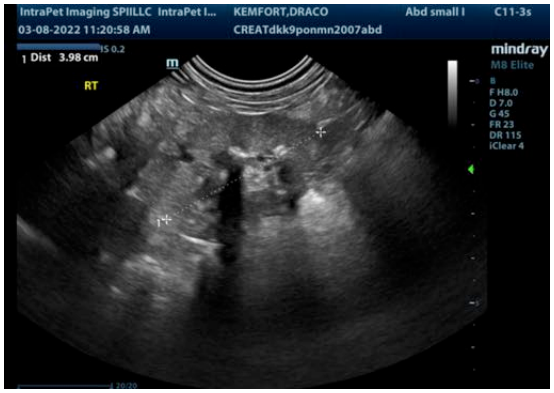
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RT
mindray
M8 Elite


IntraPet Imaging SPIILLC IntraPet I... KEMFORT,DRACO Abd small I C11-3s
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prostate
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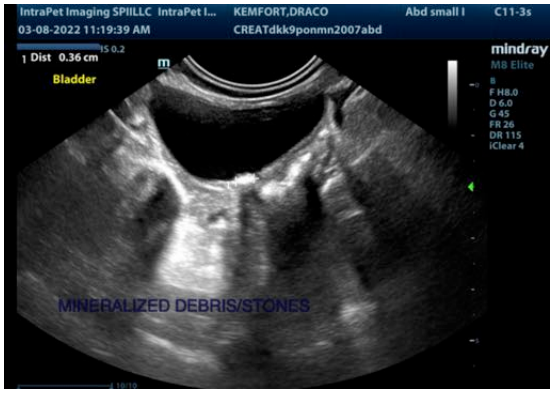

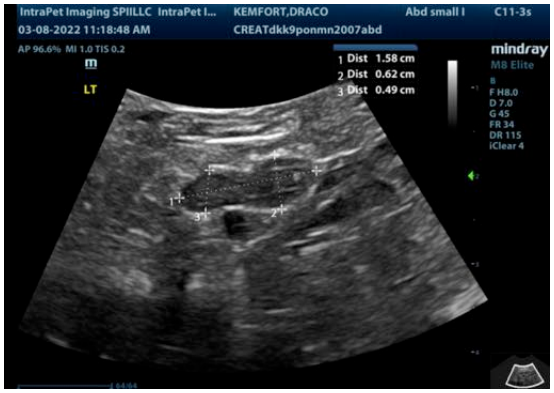

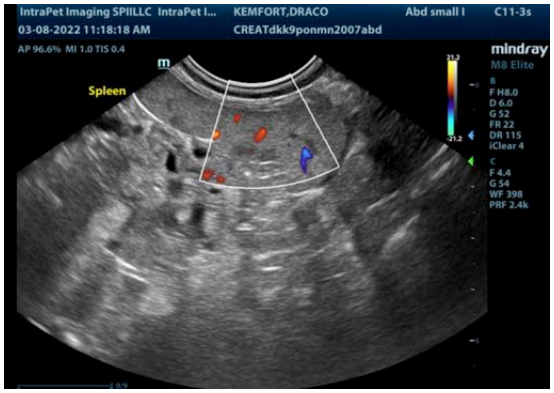

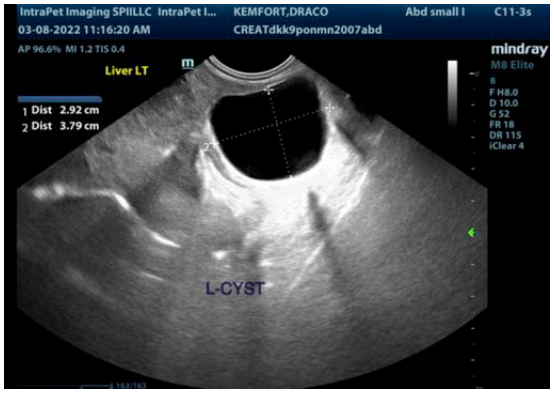

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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