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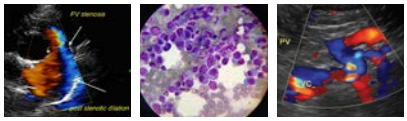

SonoPath

Clinical Sonography & Telecytology

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DATE

7/13/22

PATIENT

Lucky Devors

SPECIES

Canine

BREED

Mix

SEX

Neutered Male

AGE

5/1/06

WEIGHT

31 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Andi Parkinson RDMS

HOSPITAL NAME

Paradise AH

REFERRING VET

Dr. Riehl

INVOICE

39436

PRESENTING CLINICAL SIGNS

16 yr old MN mix presented beginning of July for vomiting 6 times. BW revealed hepatopathy and supportive care/antibiotics initiated (see below). Rads nsf. Was clinically improving (see repeat BW), and now vomited again 6 times overnight on 7/11. Prayer position in room and uncomfortable upon abdominal palpation (new clinician evaluating). Repeat BW not performed and out patient treatment initiated again. Pending ultrasound, may hospitalize/recheck BW on 7/13/2022 Senior BW performed in 1/2022 prior to starting NSAIDs for DJD; started galliprant and was maintaining on gabapentin

Current Medications: 7/12/2022: Buprenorphine: 1 mL IM, SQF: 400 mL SQ, Cerenia: 1.6 mL SQ, Pepcid: 1.6 mL SQ. Since 7/1/2022: Gabapentin 100mg BID, Metronidazole 250mg BID, Amoxicillin 250mg BID, Denamarin SID
Lab Results: 7/12/2022: repeat BW not performed at time of appointment. 7/8/2022: - ALT= 318 --> was 2300 - ALP= 409 --> was 926. 7/6/2022: Lepto urine/blood PCR negative/negative. 7/1/22: CBC;
- Not anemic, RBCs microcytic, No stress leukogram noted. Chem
- Bun= 28, Crea= 1.9 --> almost exactly stable from previous BW
- Extremely elevated ALT >> ALP, ALT= 1600 ~10x URI; ALP= 963 ~8x URI, ALT significantly progressed since last BW, Elevated GGT = 25
SNAP cPL= normal. 1/26/2022 (pre starting galliprant) ALT 129, BUN 1.7
Radiographs: 7/1/2022 3-V AXR: normal liver, gas throughout intestines. No obvious mass effect, 2-V CXR: no obvious mets
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 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 visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (5.33 cm) with small cortical cysts and mild pyelectasia at 0.25 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.

The right kidney has a normal shape and size (4.6 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 0.75 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 0.41 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. There is a small hypoechoic nodule visualized at 0.52 cm.

Liver
The liver is subjectively normal in size, and 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. There is a 2.77 cm irregular cystic lesion visualized in the liver.

The gallbladder lumen is significantly distended. Some of the areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris present, but some of this material is starting to organize around the perimeter. There is a large amount of surrounding inflammation and some scant free fluid surrounding the gallbladder. There no evidence of bile duct dilation, but findings are concerning for severe cholecystitis +/- gallbladder rupture.

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 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
There is a small amount of free abdominal fluid. There is a prominent mesenteric lymph node visualized measuring 1.27 cm in diameter. The omentum is hyperechoic around the liver and gallbladder.

PRIMARY FINDINGS

- Large distended gallbladder with early mucocele formation, surrounding inflammation, and scant free fluid – concerning for severe cholecystitis/early mucocele/localized peritonitis and possible previous rupture.

- 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.

- Decreased corticomedullary distinction in both kidneys with small cortical cysts and left-sided pyelectasia – The bilateral renal findings are consistent with age-related change.

- Small hypoechoic nodule in the spleen – There is a non-cavitated, hypoechoic splenic nodule visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.

SECONDARY FINDINGS

- Cystic liver lesion – likely an incidental finding.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

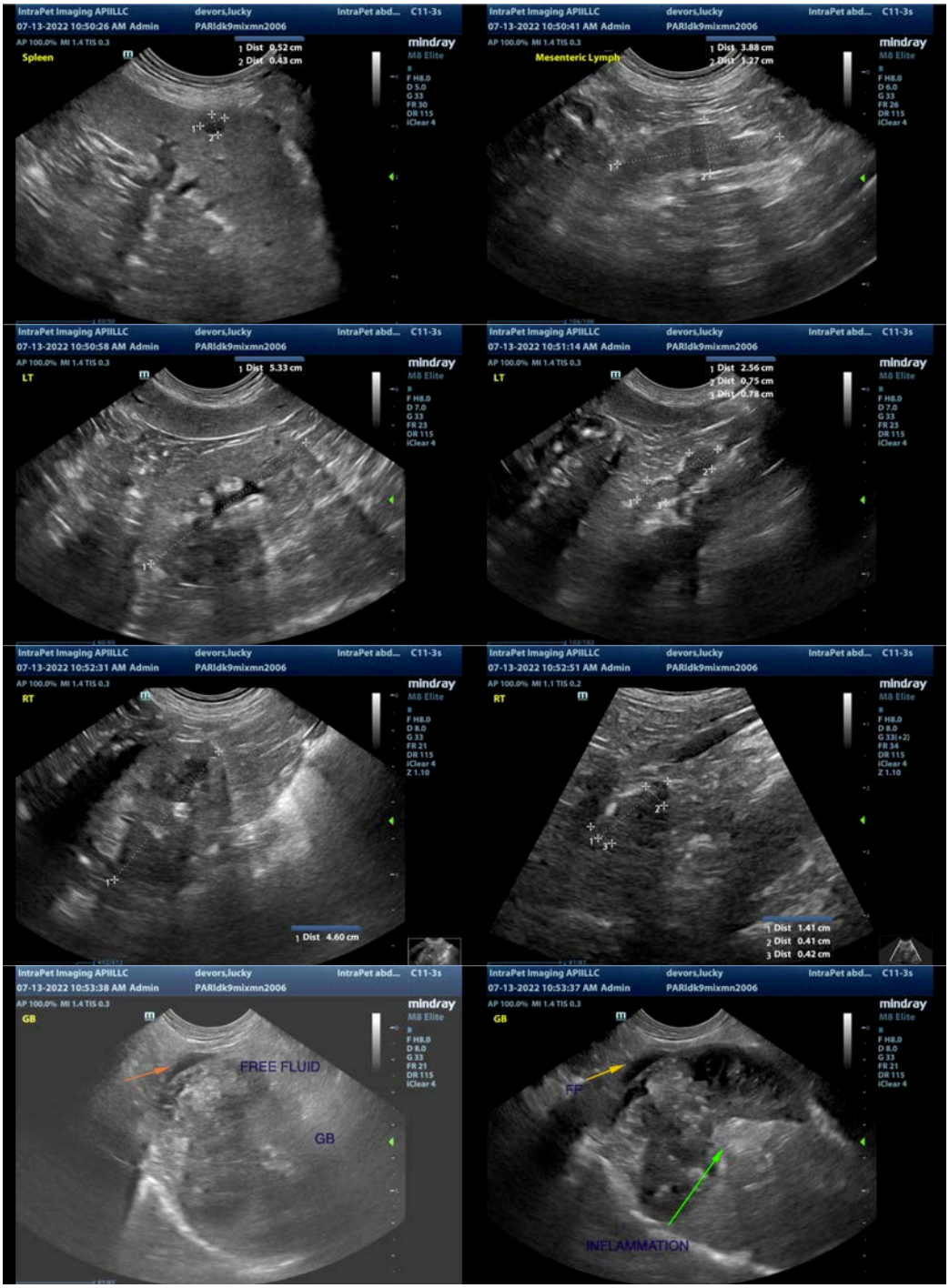
The gallbladder is large and distended with a large amount of non-organized, and small amount of early organized echogenic debris. Some of the tissue surrounding the gallbladder appears hyperechoic and inflamed, and there is a small amount of free abdominal fluid. These findings are concerning for cholecystitis and a possible either early or previous gallbladder rupture. In some instances, medical management can help to improve these lesions, but in my experience, symptoms tend to recur without removal of the gallbladder. Additionally, in a situation like this with fluid in the abdomen and peritonitis, surgical evaluation with removal of the gallbladder is generally warranted. If surgery would never be considered, then continued therapy with antibiotics and pain medications could be considered with a very guarded prognosis.

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

There is a small hypoechoic nodule visualized in the spleen. Recommend a fine needle aspirate and continued monitoring.

The changes observed in the kidneys are consistent with age related chronic renal disease. Recommend urinalysis, culture and blood pressure evaluation.

Current bloodwork with a coagulation panel should be performed as soon as possible. Surgical evaluation could be considered an emergency in this patient.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INFLAMMATION

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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