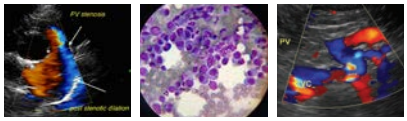
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE

6/22/23

PATIENT

Lina Cantor

SPECIES

Canine

BREED

Havanese

SEX

Spayed Female

AGE

4/5/13

WEIGHT

12.04 Pounds

INTERPRETED BY

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

HOSPITAL NAME

Everhart Vet Hospital

REFERRING VET

Dr. Kerr

INVOICE

43367

PRESENTING CLINICAL SIGNS

Patient presents with persistent liver enzyme elevations. Physical exam largely unremarkable, but does have history of previous CCL disease in the RH.

Current Medications: Denamarin adv chew sm/med- 1 SID 6/17/23, Galliprant 20mg 1 SID PRN 6/17/23, Dasuquin Advanced S/M dog 1 SID 6/17/23, Cerenia injection 10mg/mL 6/17/23.
Lab Results: ALT 665, ALP 335.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

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. There is a focal hard shadowing mineralization visualized dorsal to the urinary bladder. This appears to be outside the urinary bladder lumen. An association with other structures is not visualized. This could represent a ureterolith, but there is no visible ureter or dilated ureter in this region. This could represent focal tissue mineralization, or rarely, if a cystotomy has been previously performed, a stone can be visualized within the mesentery. Lastly, mineralization of the uterine stump is possible but this seems unlikely based on its current location.

The left kidney has a normal shape and size (3.36 cm). 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.

The right kidney has a normal shape and size (3.49 cm). 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 left adrenal gland is normal in size measuring 0.40 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 somewhat “plump” measuring 0.60 cm at the cranial pole, 0.39 cm at the caudal pole, and 1.48 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It has a somewhat blunted appearance, but no focal mass effect, and there is no evidence of vascular invasion visualized.

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 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. No focal nodules or cystic lesions are observed.

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.

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 uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Duodenum wall measures 0.37 cm. Jejunum wall measures 0.26 cm. There is occasional mild mucosal speckling visualized. 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 right limb of 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

- Focal shadowing mineralization visualized dorsal to the urinary bladder – The significance of this is unclear. Differentials would include a ureteral stone, mineralization of the uterine stump, other. I suspect this is incidental at this time.

- Decreased corticomedullary distinction in both kidneys – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

- Prominent, mottled right limb of the pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

- 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.

- Moderate gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

- Subjectively mildly thickened small intestine with occasional mild mucosal speckling – Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the liver to explain the liver enzyme elevations reported. There is a moderate amount of gallbladder debris evident, but no evidence of wall thickening or surrounding inflammation. Unfortunately, there are many causes for liver enzyme elevations that cannot be definitively diagnosed by ultrasound alone. Consider the following:

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...

- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history

- If not already done, consider pre and post prandial bile acids to evaluate liver function

- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)

- If no response to supportive care (Denamarin, fluids, antibiotics, +/- ursodiol etc.) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

Consider starting chronic Ursodiol therapy for the gallbladder debris and recommend continued monitoring of the gallbladder.

Both kidneys have decreased corticomedullary distinction. This is likely consistent with age related chronic renal change. Recommend a blood pressure, urinalysis and culture. There is a focal area of shadowing mineralization visualized dorsal to the urinary bladder wall. The significance of this is unclear. I suspect at this time this is an incidental finding. Correlate with abdominal radiographs, looking for this focal mineralization. I do not visualize any evidence of ureteral dilation in the region, involvement of the uterine stump or other structures. Recommend continued monitoring.

The small bowel measures as mildly thickened with occasional mucosal speckling, and the right limb of the pancreas is somewhat prominent. In the absence of gastrointestinal signs, the significance of these lesions is questionable.


IntraPet Imaging RBIILLC
cantor,lina
Abd small I
C11-3s
06-22-2023 12:50:08 PM Admin
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mindray
Bladder
1 Dist 0.71 cm
FOCAL MINERALIZATION DORSAL TO UB


IntraPet Imaging RBIILLC
cantor,lina
Abd small I
C11-3s
06-22-2023 12:50:45 PM Admin
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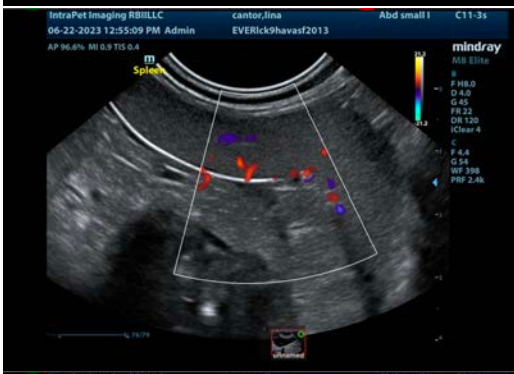
mindray
Liver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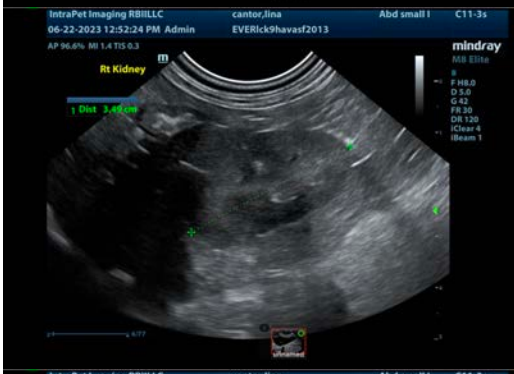
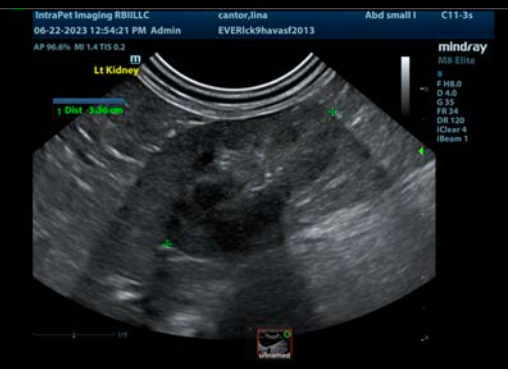
mindray
Spleen


IntraPet Imaging RBIILLC
cantor,lina
Abd small I
C11-3s
06-22-2023 12:58:01 PM Admin
EVERick9havasf2013
mindray
RT PANC
1 Dist 0.94 cm


IntraPet Imaging RBIILLC
cantor,lina
Abd small I
C11-3s
06-22-2023 12:52:24 PM Admin
EVERick9havasf2013
mindray
Rt Kidney
1 Dist 3.49 cm


IntraPet Imaging RBIILLC
cantor,lina
Abd small I
C11-3s
06-22-2023 12:52:59 PM Admin
EVERick9havasf2013
mindray
Rt adr
1 Dist 1.48 cm
2 Dist 0.39 cm
3 Dist 0.60 cm


IntraPet Imaging RBIILLC
cantor,lina
Abd small I
C11-3s
06-22-2023 12:54:52 PM Admin
EVERick9havasf2013
mindray
Lt adr
1 Dist 1.67 cm
2 Dist 0.40 cm
3 Dist 0.37 cm


IntraPet Imaging RBIILLC
cantor,lina
Abd small I
C11-3s
06-22-2023 12:54:21 PM Admin
EVERick9havasf2013
mindray
Lt Kidney

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)
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