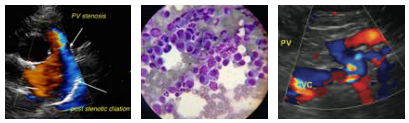
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE
6/25/22

PATIENT
King Corbett

SPECIES
Canine

BREED
Collie

SEX
Neutered male

AGE
8/24/11

WEIGHT
64.5 lbs

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

HOSPITAL NAME
North East AH

REFERRING VET
Dr. Hanlin

INVOICE
31234

PRESENTING CLINICAL SIGNS

Decreased appetite, weight loss. Splenomegaly, hepatomegaly. Occasional diarrhea.
Current Medications: Glucosamine, Denamarin. Previously on Ursodiol and Thyro tabs.
Lab Results: ALT increase 133.
Radiographs: Hepatosplenomegaly, possible tumor.
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 contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 7.26 cm. The capsule is smooth. The cortex is within normal limits in echogenicity, i.e. it is hypoechoic to the spleen. Hyperechoic areas are observed along the medulla, causing an exaggerated corticomedullary junction. A few mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. An accumulation of intrapelvic fat is noted. Blood flow is within normal limits. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 7.32 cm. Findings are similar to the left kidney.

Aortic bifurcation/trifurcation
No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.65 cm at the cranial pole, 0.64 cm at the caudal pole and 3.22 cm in length. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 1.04 cm at the cranial pole, 1.01 cm at the caudal pole and 2.85 cm in length. is enlarged and slightly "pudgy", however, an obvious mass is no visualized. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

Mild splenomegaly. It is within normal limits in architecture and echogenicity, and the capsule is smooth. A diffuse, subtle miliary pattern is noted. Multiple, small, well-delineated, hyperechoic nodules are noted at the head (3 mm x 2 mm). Occasional perivascular cuffing is observed, consistent with myelolipomas, which are clinically insignificant. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

Presence of mild to moderate hepatomegaly with smooth and rounded borders . The liver has a "swollen" appearance. Congestion of the hepatic veins is not observed. The liver's overall echogenicity is hyperechoic

compared to normal, i.e. all lobes are isoechoic to the spleen, however, some liver lobes are hyperechoic to one another and hyperechoic to the spleen. The liver is diffusely, miliary and granular in echotexture. A hypoechoic, almost isoechoic, nodule, measuring, 1.26 cm in diameter x 2.28 cm in length, is noted. The adjacent parenchyma is mildly heterogeneous. Two hyperechoic nodules are observed intercostally (e.g. left cranial liver. The larger of the two measures 1.28 cm x 1.06 cm. There are no signs of portosystemic shunt. The gallbladder wall is within normal limits in thickness and echogenicity. A moderate amount of echogenic material is present within the GB. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.

Gastrointestinal

Gas and ingesta are present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed.

The colonic wall is not thickened and mural detail is considered normal. Formed stools are present within the colon.

There are no signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.

Pancreas

No overt abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. Occasional punctate hyperechoic foci and small nodule is noted within parenchyma. They are suggestive of areas of fibrosis, fat and/or mineralization. Signs of active pancreatitis or neoplasia are not appreciated.

Other

Lymph nodes
No abnormalities are observed

Abdominal effusion is not visualized.

Heart

A brief video clip of the heart was submitted. Pericardial and pleural effusion are not identified. There is no evidence of a mass in any of the cardiac chambers, including the right auricle, however, a mass may be overlooked in the absence of pericardial effusion. No obvious abnormalities with contractility (measurements not performed).

ULTRASONOGRAPHIC FINDINGS

- **Liver**: The hypo and hyperechoic hepatic nodules appear well-defined and are suggestive of nodular hyperplasia and a regenerative nodule or area of fibrosis, respectively. Although the other changes described (echogenicity, echotexture, borders, etc.) are non-specific, they are unlikely to be due to vacuolar and reactive hepatopathies alone. Differential diagnoses include hepatitis, including infectious agents, and possible infiltrative disease, such as lymphoma or other round cell tumour. Evaluation of the history with the client regarding travel, exposure to vector borne diseases, dietary

changes (raw meat diets, etc.), natural supplements, is suggested. The changes observed are not typical of a cholangitis/cholangiohepatitis.

- **Spleen**: The degree of splenomegaly is mild and may be normal for King, however, the mild increase in size and the subtle miliary echotexture may be signs of extramedullary hematopoiesis, reactive hyperplasia or splenitis. Infiltrative disease cannot be excluded.

- **Gallbladder**: Gallbladder sludge is often clinically insignificant, however, it can cause signs of gastroesophageal reflux disease (GERD) in some patients. Obtaining a history regarding signs of GERD from the client is suggested.

- **Adrenal glands**: Adrenal hyperplasia secondary to stress/chronic illness is possible. An adenoma may also be creating the "pudgy" appearance. Neoplasia may be present, despite the inability to identify a well-defined mass. Clinical signs are not suggestive of pituitary-dependent hyperadrenocorticism.

- **Kidneys**: Changes are most consistent with age related to degeneration.

- **Gastrointestinal**: There are no obvious abnormalities to explain the vomiting and diarrhea

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Arterial blood pressure (enlarged right adrenal gland)

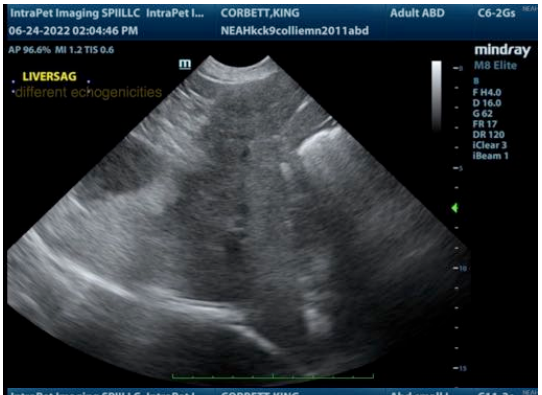
- Fine needle aspirates of the liver and spleen are recommended. It is possible that hepatic tissue biopsies will be required to obtain a definitive diagnosis regarding architectural abnormalities, however, a number of diseases may be excluded with a fine needle aspirate. It is also less expensive and less invasive.

- A coagulation profile and vitamin K administration prior to fine needle aspirates (0.5 mg/kg SQ q8-12h for 1-3 doses) are suggested, even if PT/PTT within normal limits.

- Malabsorptive and maldigestive diseases are possible causes for the weight loss and diarrhea. If the client prefers not to pursue FNAs as the next diagnostic procedures, TLI, serum cobalamin, and folate may be considered.

- An evaluation of King's history for signs of GERD is suggested, as a 10-14 day trial with famotidine or omeprazole (0.7-1 mg/kg PO q12h) may be indicated.

- Other recommendations include deworming, dietary changes, addition of soluble fibre to King's current diet, administration of a synbiotic, etc.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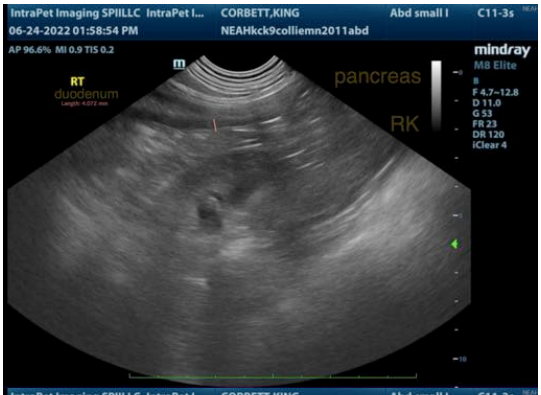
AP 96.6% MI 1.2 TIS 0.6
LIVERSAG
different echogenicities
mindray
M8 Elite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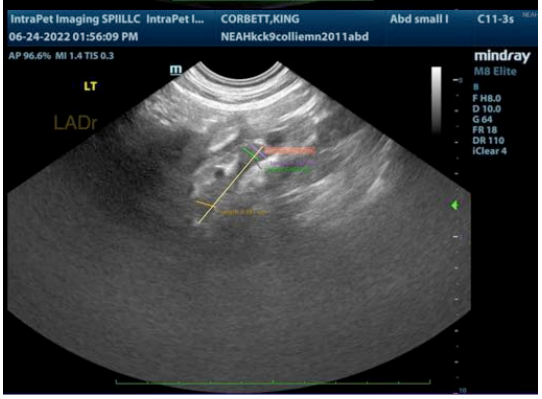
RT
duodenum
pancreas
RK
mindray
M8 Elite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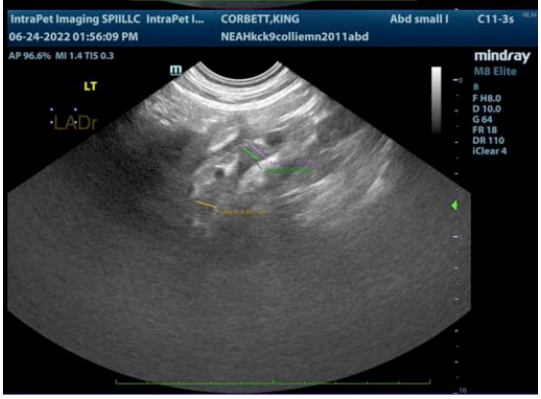
AP 96.6% MI 1.4 TIS 0.3
LT
LADr
mindray
M8 Elite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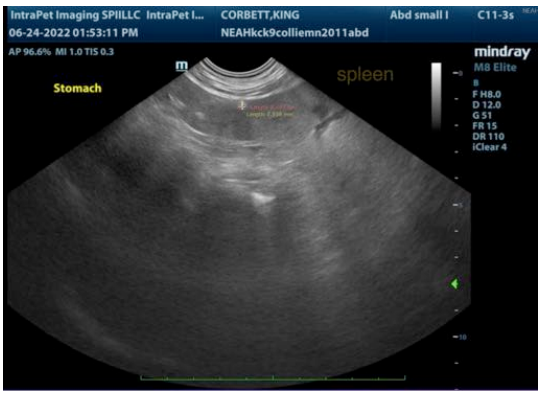
AP 96.6% MI 1.4 TIS 0.3
LT
LADr
mindray
M8 Elite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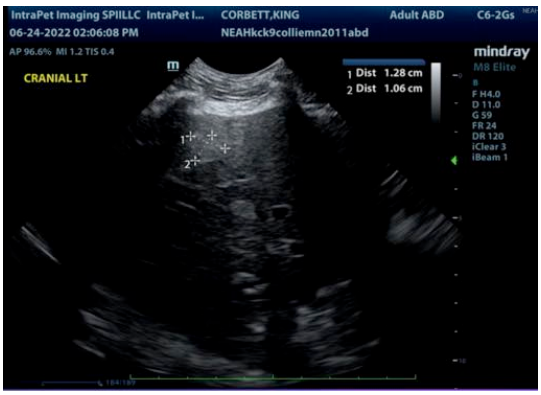
Stomach
spleen
mindray
M8 Elite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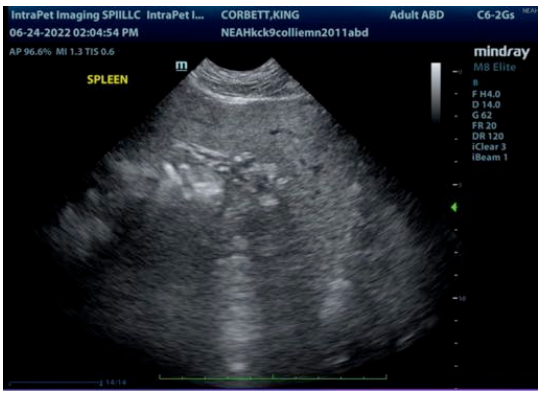
06-24-2022 02:06:08 PM NEAHkck9colliemn2011abd
AP 96.6% MI 1.2 TIS 0.4
CRANIAL LT
1 Dist 1.28 cm
2 Dist 1.06 cm
mindray
M8 Elite


IntraPet Imaging SPIILLC IntraPet I... CORBETT,KING Adult ABD C6-2Gs
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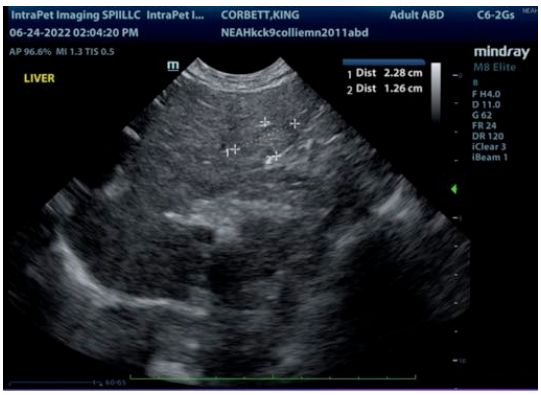
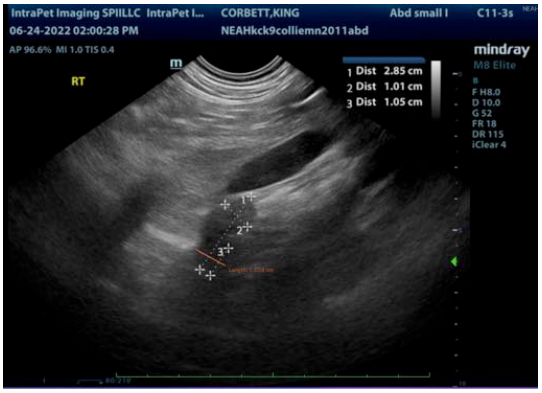
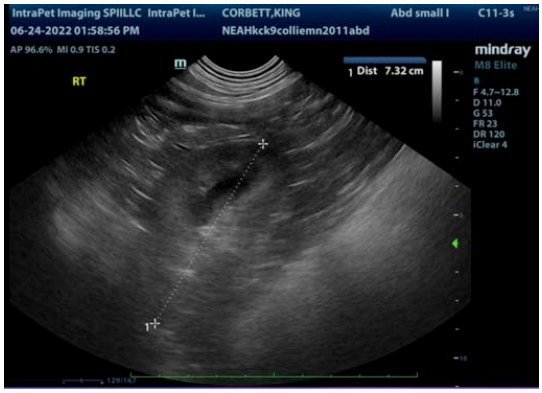
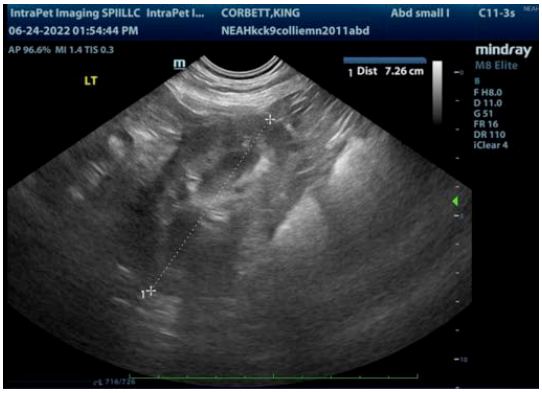
AP 96.6% MI 1.3 TIS 0.6
SPLEEN
mindray
M8 Elite


IntraPet Imaging SPIILLC IntraPet I... CORBETT,KING Adult ABD C6-2Gs
06-24-2022 02:04:20 PM NEAHkck9colliemn2011abd
AP 96.6% MI 1.3 TIS 0.5
LIVER
1 Dist 2.28 cm
2 Dist 1.26 cm
mindray
M8 Elite







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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM
Lisa.Carioto@sonopath.com