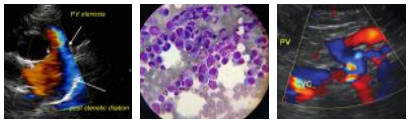
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE
6/24/22

PATIENT
Loki Grey Spirit Corcoran

SPECIES
Canine

BREED
Husky

SEX
Spayed Female

AGE
6/23/08

WEIGHT
49 Pounds

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

HOSPITAL NAME
Animal Emergency Hospital

REFERRING VET
Dr. Roper

INVOICE
16267

PRESENTING CLINICAL SIGNS

History: Sample text. Sample text. Sample Text. P has a history of elevated liver enzymes since early 2021. O has not treated because of P's age. P also has masses present on right hindlimb but has not been biopsied or FNA. P has been lame on that right hindlimb. Yesterday morning O went to beach house and brought P. He was walking. Throughout the day P was vocalizing, whimpering, and seemed to be in severe pain. O tried to take P to ER in Salisbury but they were not able to take P. This morning P went to Pet ER Delaware and he was diagnosed with pancreatitis, VPCs present on ECG -> resolved with lidocaine CRI. Thorax radiographs: mild bronchial pattern. Possible liver mass or splenic mass on lateral abdomen BP: 232/176 Abdomen radiographs: enlarged bladder which could be due blockage or normal retention. Foreign material present in the stomach -> non-obstructive. BW: - cPL: Abnormal - ALT: 394 - BUN: 55 - Phosph: 6.9 - WBC increased, Neutrophilia, Monocytosis O then brought P to Belair Animal Hospital and they recommended P come to AEH

Current Medications: Protonix, Cerenia, Gabapentin.
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

There is a foley catheter in the urinary bladder, which is empty of any intraluminal urine. The lack of urine distention and placement of the catheter impairs visualization of the urinary bladder. No obvious stones are visualized.

The left kidney has a normal shape and size (5.8 cm). Overall echogenicity is normal with adequate 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.

The right kidney has a normal shape and size (6.52 cm). Overall echogenicity is normal with adequate 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 large, measuring 0.94 cm at the cranial pole and 0.94 cm at the caudal pole and 2.74 cm in length. It is visualized in its normal position cranial to the left renal artery. It's somewhat abnormal in appearance and its hypoechoic and "plump", and there is concern for possible soft tissue invasion in the region of the phrenicoabdominal vein.

The right adrenal gland is large in size, measuring 0.94 cm at the caudal pole. It is observed in its normal position between the right kidney and the caudal vena cava. It is somewhat abnormal in appearance, as it is large and dark with no obvious evidence of vascular invasion.

Spleen

The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. There are too numerous to count pinpoint hyperechoic foci throughout the splenic parenchyma.

Liver
The liver is large in size and irregular with rounded margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. The hepatic parenchyma has too numerous to count ill-defined hyper- and hypoechoic nodules coalescing throughout the parenchyma.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. 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 (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 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

- Bilaterally irregular and “plump” adrenal glands with a suspicion of vascular invasion on the left side. Bilateral enlargement is most typical of hyperplastic change, but the left sided possible vascular invasion increases concern for a neoplastic process.

- Mottled 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.

- Large irregular heterogeneous liver with coalescing hyper- and hypoechoic ill-defined nodules. 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 intraparenchymal nodules trend towards a benign appearance.

Secondary Findings

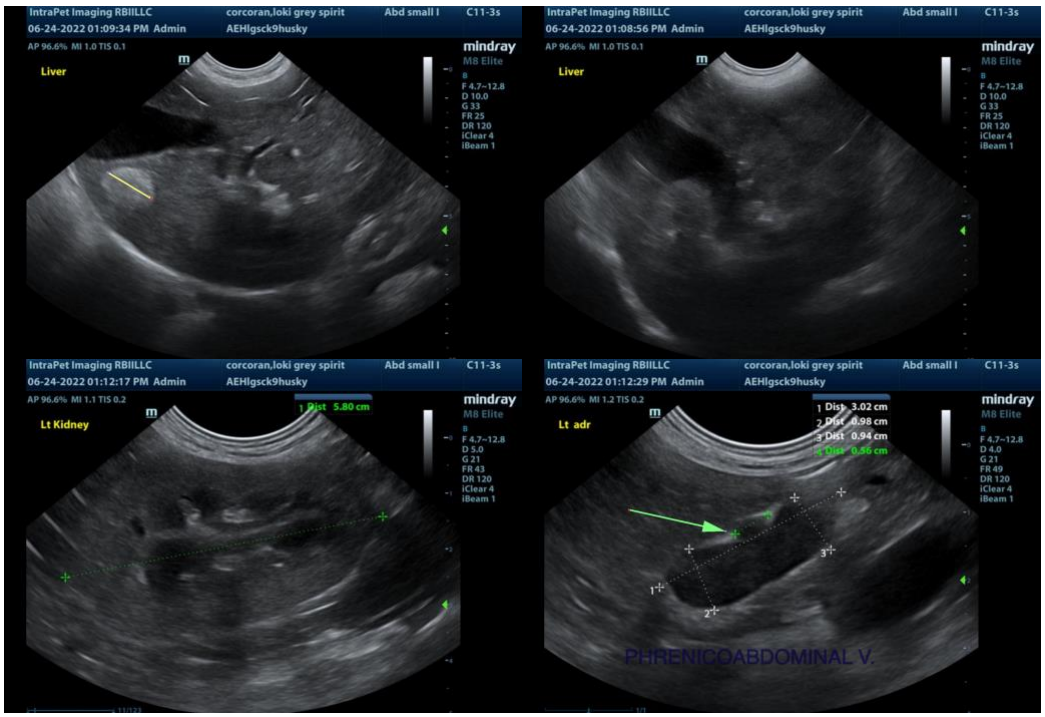
- Empty urinary bladder with foley catheter

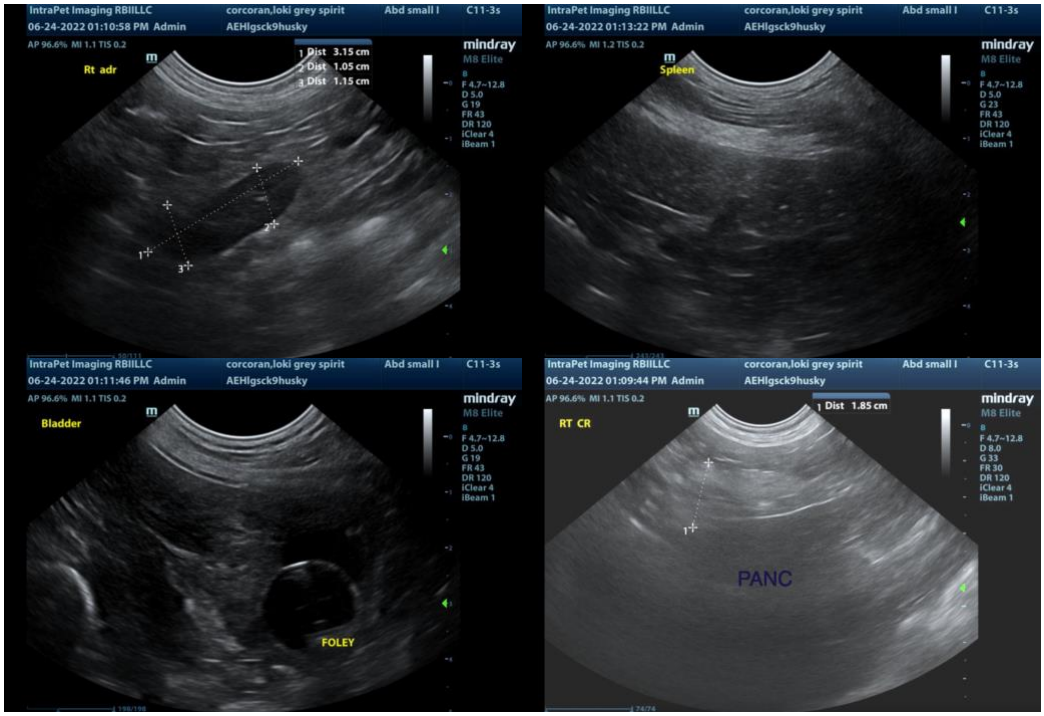
- Prominent mottled pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pancreas was somewhat prominent on today's scan but did not appear severely inflamed. The ultrasound appearance of the pancreas does not always correlate with the degree/severity of clinical signs present. Consider a quantitative PLI to further evaluate. The liver is large and nodular, consider a liver function test and a fine needle aspirate of the liver. Additionally, both adrenal glands are large and dark and there is concern in the left adrenal gland for possible invasion or clot formation into the phrenicoabdominal vein. Consider a contrast CT scan to further evaluate the liver for larger more expansile mass lesions and for possible vascular invasion of the adrenal glands.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement. Therapeutically, continued treatment for pancreatitis/gastroenteritis seems appropriate, as well as culturing the urine and potentially evaluating the urinary bladder when it is distended with urine for any small mass lesions, etc.





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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
kathleen.sennello@sonopath.com