

**DATE PRESENTING CLINICAL SIGNS**

2/14/23 Chronic diabetes uncontrolled with weight loss.

PATIENT

Leonard Robertson

Current Medications: Prozac 10U BID SQ.
 Lab Results: Glucosuria, high blood glucose, proteinuria.
 Date of Previous IntraPet Ultrasound: No previous.
 Sedation: Not required to complete full diagnostic ultrasound.
 Stat Report: Not requested.
 Imaging Performed By: Rachel Brillhart, RDMS.

SPECIES

Feline

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**BREED**

DSH

SEX

Neutered Male

AGE

5/8/14

WEIGHT

12 Pounds

INTERPRETED BY

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

HOSPITAL NAME

Aberdeen Vet Clinic

REFERRING VET

Dr. Fritz

INVOICE

45102

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 left kidney has a normal shape and size (5.27 cm) with mild pyelectasia at 0.17 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 nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

The right kidney has a normal shape and size (4.94 cm) with pyelectasia at 0.49 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 nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large and hypoechoic, measuring 0.86 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 large and hypoechoic, measuring 0.66 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 (0.97 cm), 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 large with smooth peripheral margins. The parenchyma is hyperechoic and homogenous in echotexture. 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 <0.36cm 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. Duodenum wall measures 0.32 cm. Jejunum wall measures 0.28 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 large and hypoechoic to surrounding mesentery. There is a hypoechoic cystic region within the parenchyma measuring 1.14 cm x 1.25 cm. The pancreatic duct is significantly dilated at 0.40 cm. There is evidence of regional mesenteric inflammation. Consistent with moderate to severe pancreatitis.

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 mesentery is significantly hyperechoic around the hypoechoic pancreas.

ULTRASONOGRAPHIC FINDINGS

- Bilateral adrenomegaly – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.
- Decreased corticomedullary distinction in both kidneys with bilateral pyelectasia – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the kidney(s) could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Severely enlarged, hypoechoic, irregular pancreas with surrounding inflammation and a small cystic area – Findings are most consistent with moderate to severe pancreatitis, although infiltrative disease cannot be excluded as a possible.
- Large hyperechoic liver – Hepatic changes are non-specific and could be consistent with hepatic lipidosis, inflammatory/infectious disease, infiltrative neoplasia, 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. Incidental gall bladder debris is less common in cats.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pancreas appears severely enlarged, hypoechoic, and irregular in both limbs. The pancreatic duct is severely dilated and there is surrounding inflammation. These findings are most consistent with moderate to severe pancreatic inflammation, although infiltration cannot be ruled out. Consider a fine needle aspirate of the pancreas and treatment for severe pancreatitis, as well as correlating these findings with a qualitative

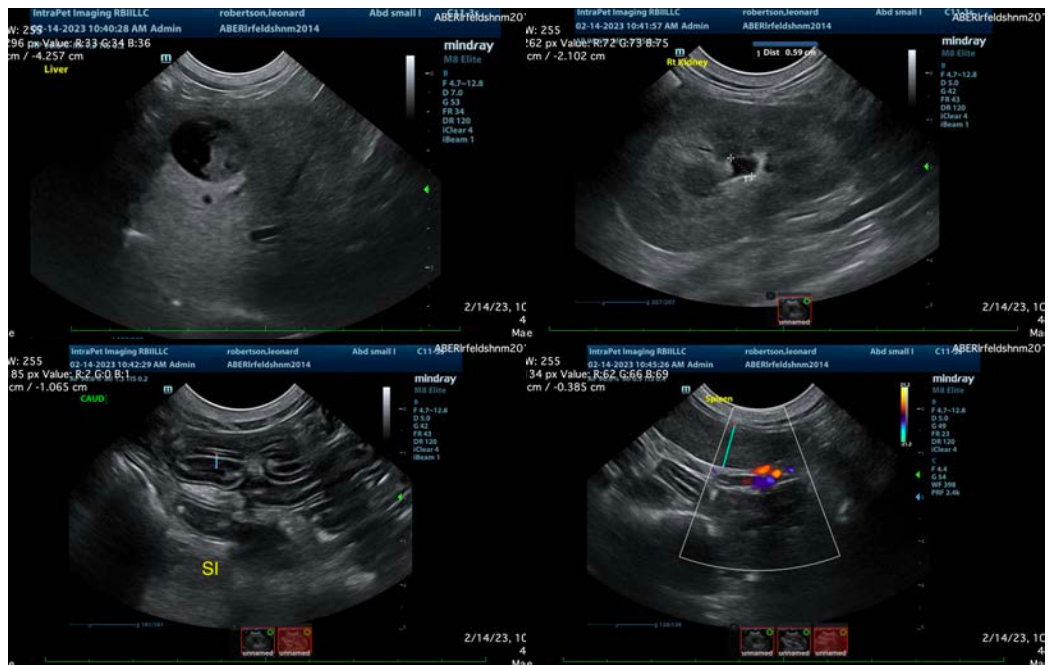
fPLI measurement to follow over time with treatment.

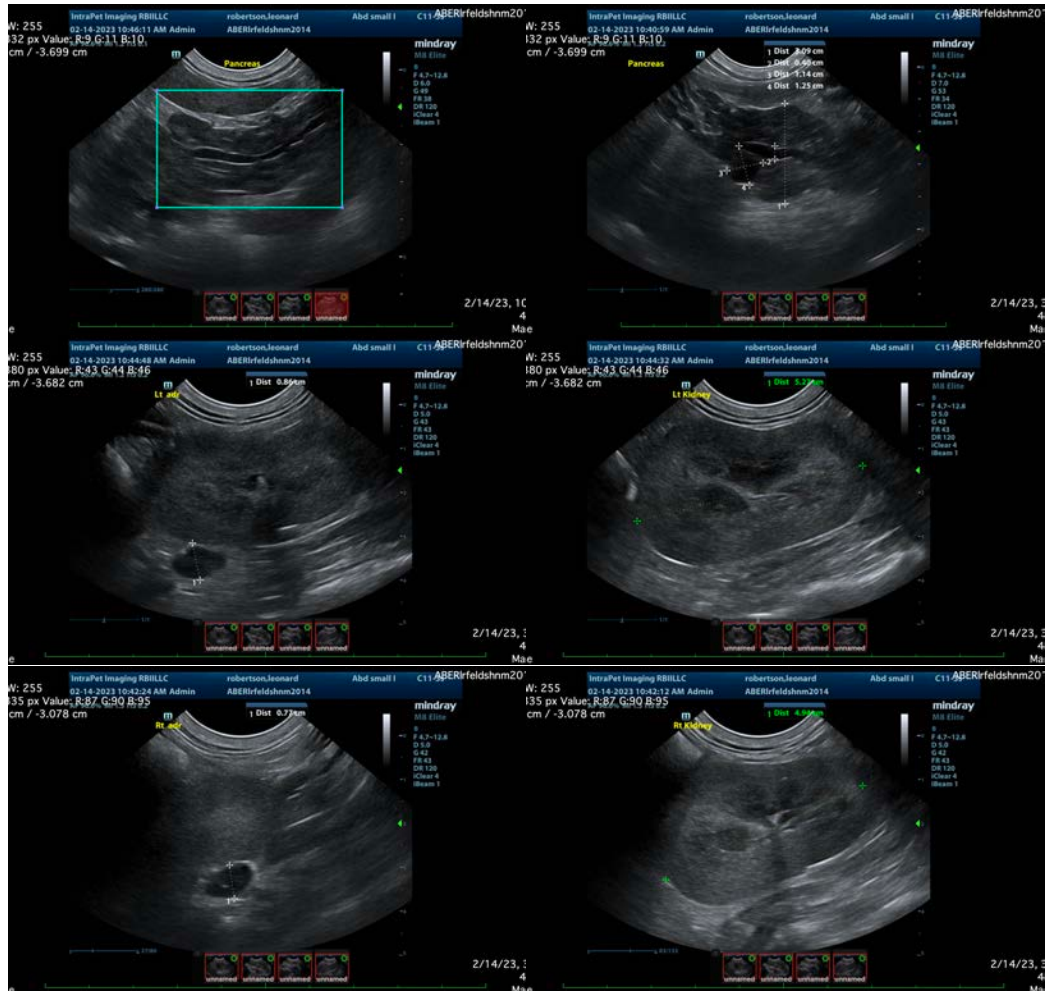
Both kidneys have decreased corticomedullary distinction, which is likely age related, but there is bilateral pyelectasia also present. Recommend urinalysis and culture to rule out the possibility of pyelonephritis.

The changes observed in the liver and gallbladder are likely secondary to the diabetes at this time. Recommend continued monitoring.

Both adrenals are large. This could be an indicator of possible pituitary dependent Cushing's, although with the concurrent pancreatic disease, I think adrenal function testing would be difficult to interpret at this time. Additionally, I would consider screening this cat for growth hormone excess with IGF levels, particularly if the patient's clinical appearance is consistent with a growth hormone excess. Hopefully if the pancreatic disease can be controlled and treated, insulin resistance may improve. Consider reevaluation of the adrenals when he is feeling better or testing for possible Cushing's disease (possibly a combined ACTH stimulation test and Dexamethasone suppression test). I would recommend hormone testing done at Michigan State University, as you can check a box for the endocrinologist to interpret the findings and they're available for consultation with these challenging cases.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.





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)
 kathleen.sennello@sonopath.com