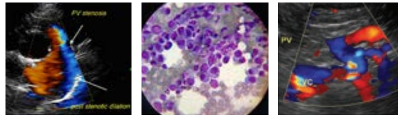


DATE
2/1/23

PATIENT
Anna Saunders

SPECIES
Canine

BREED
Jack Russell

SEX
Spayed Female

AGE
1/1/10

WEIGHT
13 Pounds

INTERPRETED BY
Beth Johnson, DVM
DACVIM

HOSPITAL NAME
Airpark AH

REFERRING VET
Dr. Gibson

INVOICE
44689

PRESENTING CLINICAL SIGNS

Pet dealing with chronic pancreatitis flare ups -several per week per owner with pet acting lethargic and inappetent. Also is dealing with presumed inflammatory bowel disease. New liver enzyme elevations on bloodwork.

Current Medications: Budesonide SID, probiotic, metronidazole for intermittent diarrhea. HA or ZD diet.
Lab Results: 1/23/23: ALT 208, ALP 3827, GGT 50.
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
Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (0.45 cm). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

The right kidney is normal in size (5.34 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Multiple tiny non-obstructive nephroliths are noted.

The left kidney is normal in size (4.58 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Multiple tiny non-obstructive nephroliths are noted.

Adrenal Glands
The right adrenal gland is normal in size (1.92 cm long x 0.73 cm at the cranial pole and 0.70 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (1.69 cm long x 0.56 cm at the cranial pole and 0.52 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen
The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver
The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. An approximately 6.0 cm in diameter lobulated homogeneous, primarily hyperechoic mass is noted in the deep mid liver. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as mild to moderate suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen is empty with no evidence of obstruction or foreign material.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **Lobulated liver mass** – Differentials include a marked benign change including nodular hyperplasia, fibrosis of an old hematoma or granuloma, a large myelolipoma, as well as infiltrative neoplastic etiologies including primary hepatic neoplasia, infiltrative round cell neoplasia, sarcoma, metastatic disease, other, and cannot be differentiated without tissue sampling.

- **Inflammatory bowel disease (IBD) pattern –** Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling.

- Chronic active pancreatitis

SECONDARY FINDINGS

- Multiple tiny non-obstructive nephroliths bilaterally in the kidneys

- **Chronic Cystitis -** Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.

- **Mild to moderate gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

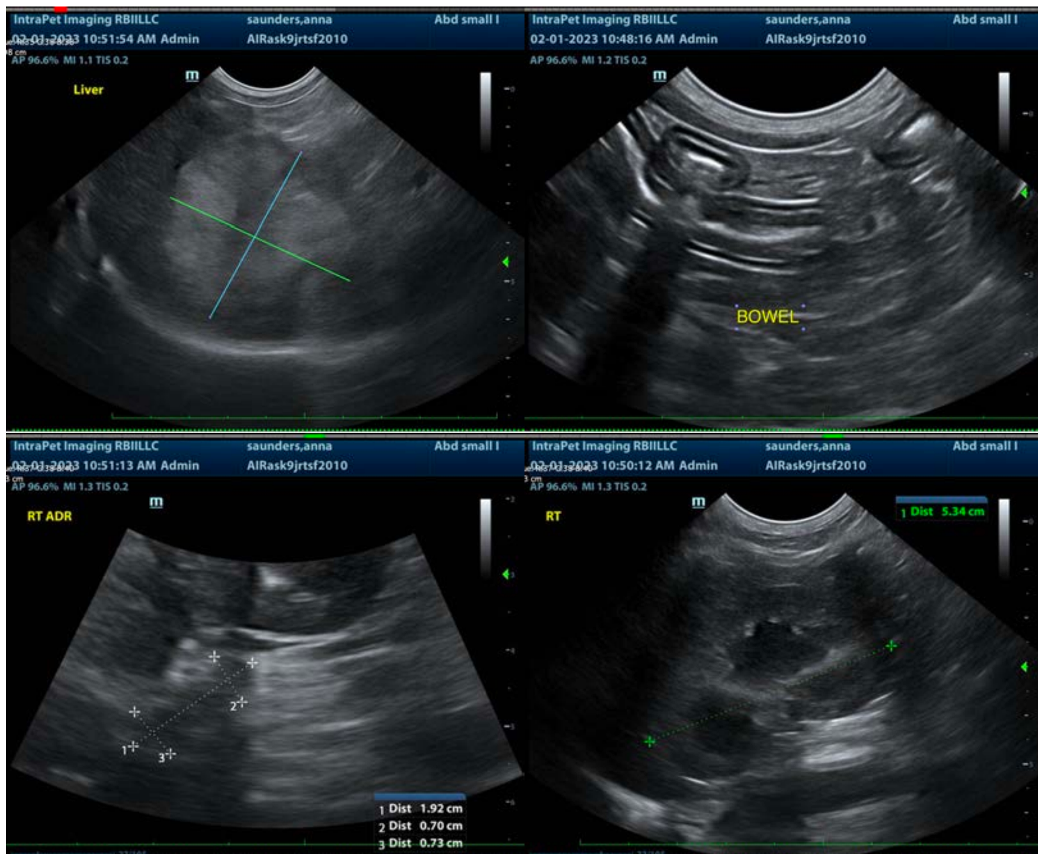
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

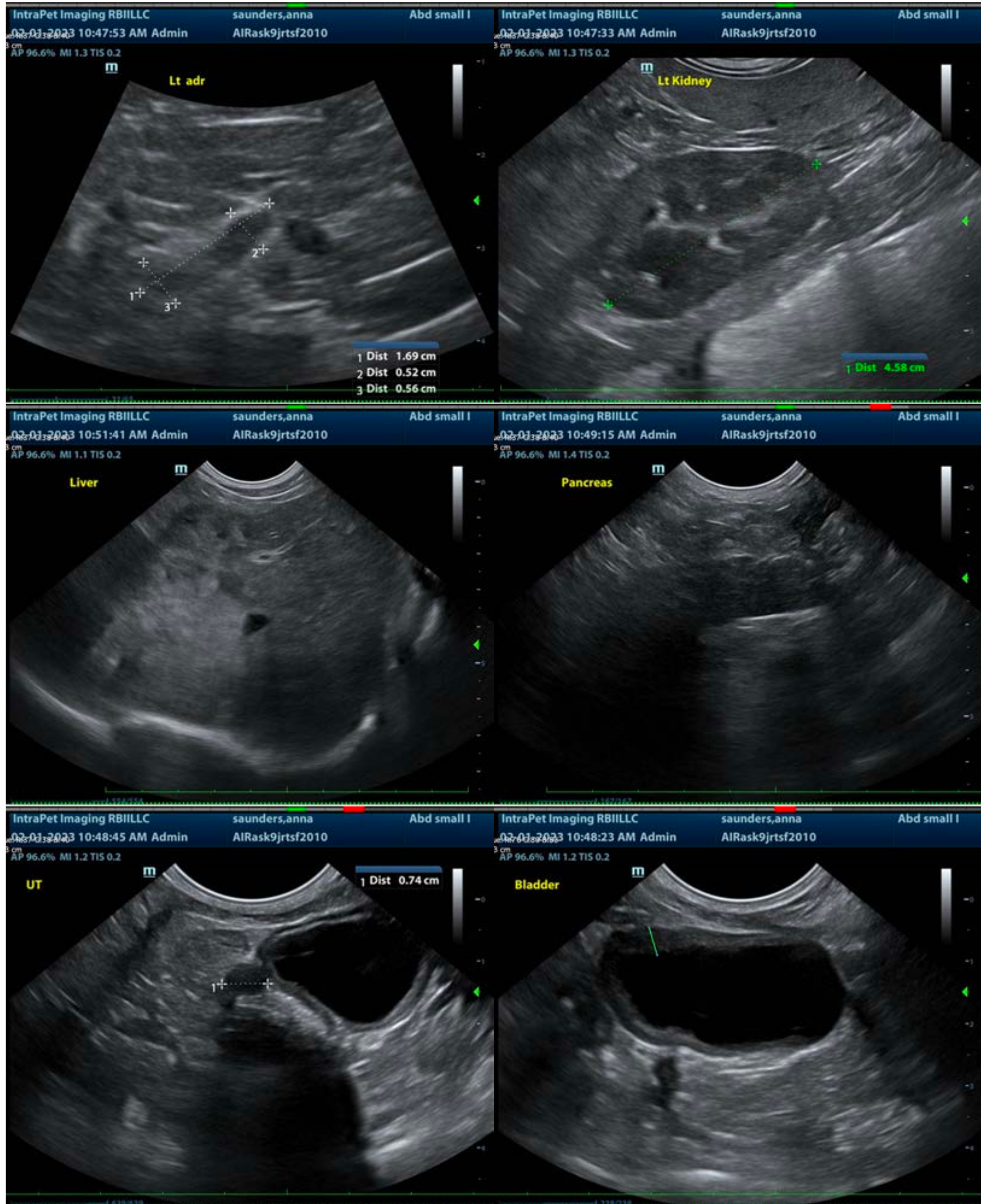
This patient's ultrasound changes match the suspected clinical history of chronic active pancreatitis and likely an infiltrative bowel disease. Further diagnostics to further evaluate these problems include:

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

Ultimately, biopsies of the gastrointestinal tract may be necessary to definitively diagnosis and therefore manage the ongoing gastrointestinal signs. However, the recent jump in increased liver enzymes is likely secondary to the liver mass, which should be evaluated first via fine needle aspirate if patient's coagulation status is appropriate. Alternatively, especially if gastrointestinal biopsies are elected, an exploratory laparotomy for planned liver mass removal and full thickness GI biopsies could be considered. The location of the liver mass, however, could make full resection a challenge, and if surgery is elected, a pre-surgical planning abdominal CT scan may be helpful.

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

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Lt adr
1 Dist 1.69 cm
2 Dist 0.52 cm
3 Dist 0.56 cm
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Pancreas
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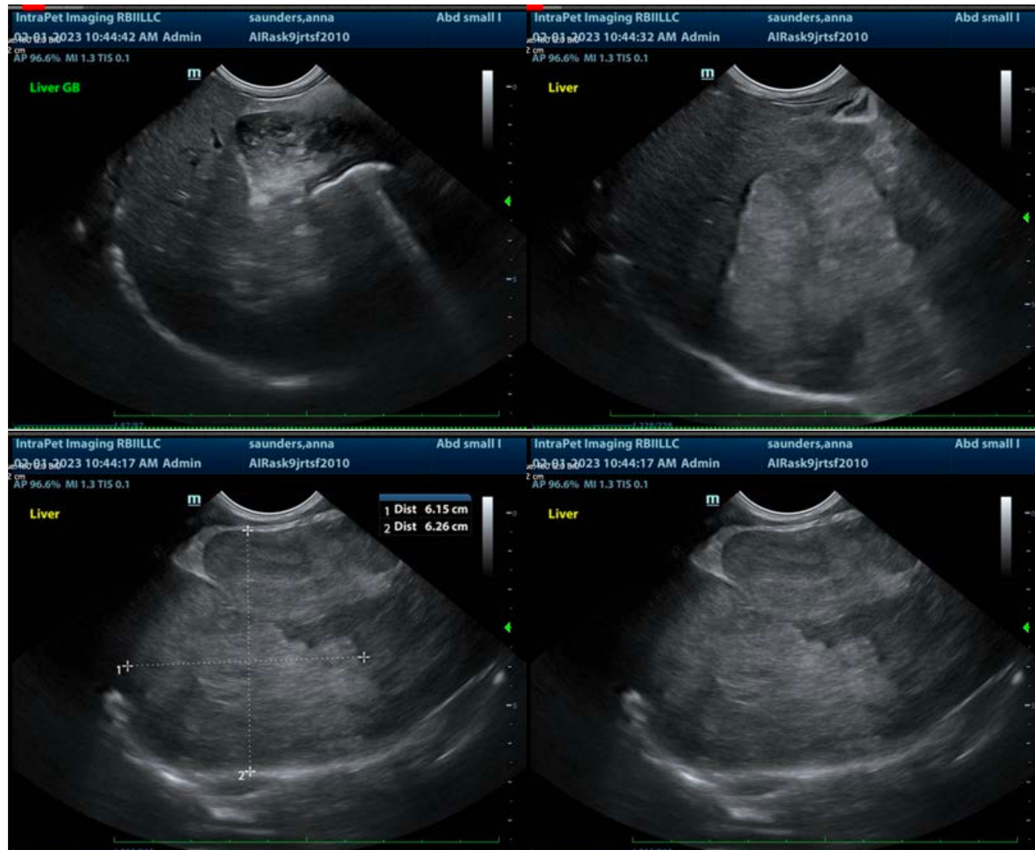
Bladder



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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com