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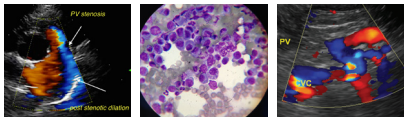
IntraPet.com



SonoPath

Clinical Sonography & Telecytology

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DATE

2/15/22

PATIENT

Charlie Daniel

SPECIES

Canine

BREED

Maltese

SEX

Neutered Male

AGE

10/17/11

WEIGHT

12 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Goessling

INVOICE

36190

PRESENTING CLINICAL SIGNS

Referral for supportive care and ultrasound. Patient is usually very food motivated. He had a bout of kennel cough in October '21 that took him 8 weeks to fully recover from. During that time, RDVM recommended weight loss and diet was changed from blue buffalo to hills. Owner then noticed decreased appetite so changed back to blue buffalo but still not eating great, so started blue buffalo canned food. Recently, owner noticed PU/PD and then patient stopped eating dog food altogether. Owner started feeding boiled chicken, poached eggs, and even some salmon she had cooked in grapeseed oil. Patient then started vomiting 2 days ago and now won't eat and is not drinking. Was seen at Urgent care and blood work concerning for pancreatitis.

Current Medications: None listed.
Lab Results: ALKP 1796 U/L (23 -212), GGT 15 U/L (0-11), TBIL 1.0 mg/dL (0.0-0.9), CHOL 406 mg/dL (110 - 320), AMYL > 2500 U/L (500- 1500), LIPA 5110 U/L (200- 1800). Persistent mild hyperglycemia
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

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.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (4.36 cm) with mild pyelectasia at 0.19 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.22 cm) with mild pyelectasia at 0.12 cm and a small cortical cyst at 0.34 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 0.59 cm at the cranial pole, 0.81 cm at the caudal pole, and 2.09 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat irregular in appearance in that there is a subtle hyperechoic ill-defined focus in the caudal pole measuring 0.71 cm x 0.58 cm. This does not deform the shape of the adrenal gland at all, and there is no evidence with vascular invasion.

The right adrenal gland is normal/ borderline large in size measuring 0.78 cm at the cranial pole, 0.67 cm at the caudal pole, and 2.18 cm in length. 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, 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 in size, and normal in 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 gallbladder 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 is mild to moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering 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 measured 0.27 cm. Jejunum wall measured 0.19 cm. There is some mucosal speckling noted in the duodenum. 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 no evidence of nodules or cystic lesions. There is evidence of regional mesenteric inflammation. Consistent with moderate pancreatitis.

Free Abdomen
No free fluid. No lymphadenopathy. The omentum is hyperechoic surrounding the pancreas.

ULTRASONOGRAPHIC FINDINGS

- Hypoechoic, enlarged, prominent pancreas surrounded by hyperechoic mesentery – The pancreatic changes are most consistent with moderate pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.

- Bilateral adrenomegaly with an ill-defined hyperechoic area in the caudal pole of the left adrenal gland – 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 mild pyelectasia – The bilateral renal findings are consistent with age-related change. Pyelectasia of the left/right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Large, 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.

- Mild mucosal speckling of the small intestine – Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

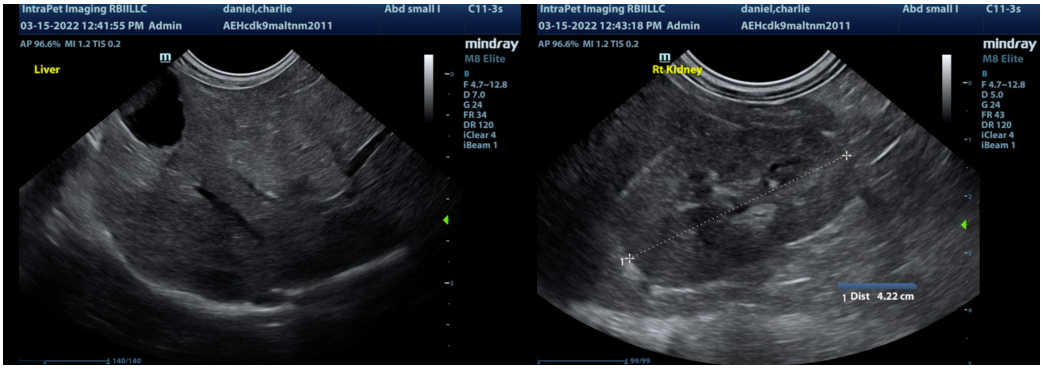
The pancreas appears prominent and inflamed. This could be consistent with active pancreatitis or improvement after a severe bout of pancreatitis. Recommend a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreas and small intestinal changes observed. Recommend treatment for pancreatitis with an ultra low-fat diet, pain medications, anti-nausea medications, etc.

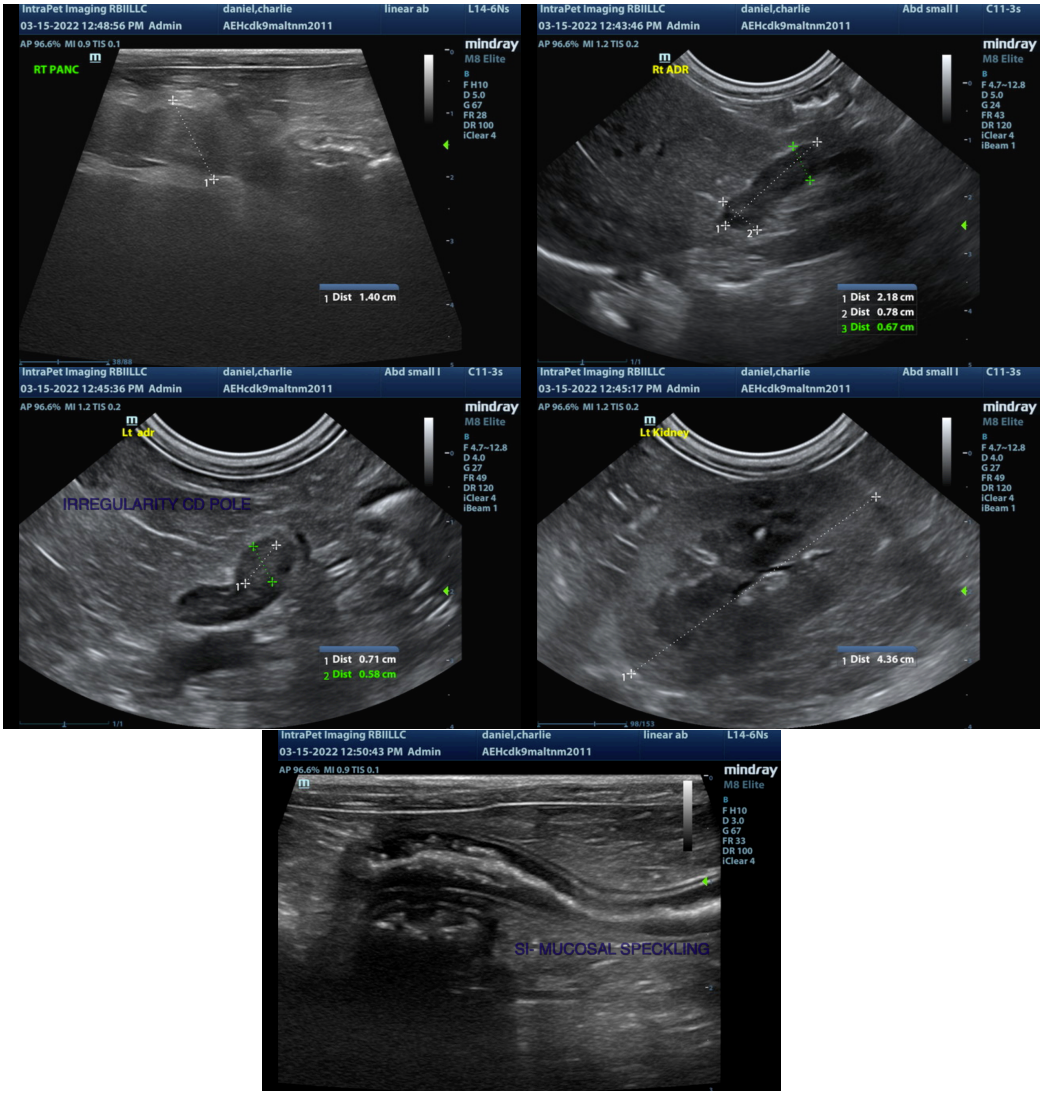
There is no obvious evidence of a biliary obstruction secondary to the pancreatitis, so a definitive cause for the elevated liver values is not identified, but there is borderline bilateral adrenomegaly. If symptoms of Cushing's exist, then consider adrenal function testing one patient is improved and feeling better. Recommend blood pressure evaluation, urinalysis and culture due to the renal changes observed and the possible Cushing's disease present.

To better narrow down the cause for the liver enzyme elevation, I would consider a liver function test +/- fine needle aspirate of the liver. Additionally, consider the possibility that this is a borderline diabetic, and if he was eating, he would be more significantly hyperglycemic, as there does appear to be keytones and glucose in the urine. If the patient is persistently anorexic, consider some means of nutritional support (feeding tube, procalamine, and G-tube with low fat liquid diet, etc.) and monitor for the development of diabetes.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

There is a small ill-defined, hyperechoic region in the caudal pole of the left adrenal gland. At this time, I would recommend monitoring this lesion with ultrasound, as I cannot rule out the possibility of an early developing neoplasm.





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