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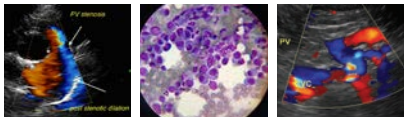

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DATE

6/21/22

PATIENT

Charley Rose Tingle

SPECIES

Canine

BREED

Pug

SEX

Spayed Female

AGE

6/16/16

WEIGHT

27.6 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. Willer

INVOICE

38936

PRESENTING CLINICAL SIGNS

Saw RDVM on 6/12 for lethargy and occ vomiting- bloodwork- (ALT- 733, ALP- 5,066, T.bil 3.0, CPLI- 219)- did out patient management- started on cerenia, denamarin, gabapentin; went back today 6/16/22- ultrasound showed moderate to severe pancreatitis/ debris in the gall bladder and ALT- 1,615; ALP > 4,000; t.bil 8.4 referred for continued care on z/d symptoms started last monday- vomited- owner started on bland diet- got in with RDVM last Friday; started medications on monday- has been eating- appetite has been decreased since transition back to her normal meal; owner did get canned food which has help; owner having a hard time getting the denamarin went back today- liver values are worse and ultrasound showed pancreatitis has been eating

Current Medications: Metronidazole, Amoxicillin, Gabapentin, Vitamin B, Denamarin, Cerenia, Ursodiol
Lab Results: See attached.
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 left kidney has a normal shape and size (5.06 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 (4.98 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 normal in size measuring 0.60 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 normal in size measuring 0.65 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, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a small hypoechoic nodule visualized within the splenic parenchyma, measuring 0.88 cm.

Liver

The liver is subjectively normal in size, and 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 appears distended. The wall of the gall bladder is not significantly thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris within the lumen. The bile duct appears prominent and dilated, visualized at 0.61 cm. An obvious focal obstruction is not observed, but there is concern that with pancreatitis present that there could be a biliary obstruction secondary to an inflamed pancreas.

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. Duodenum wall measured 0.45 cm. Jejunum wall measured 0.32 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 no evidence of nodules or cystic lesions. 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 omentum is of normal uniform echogenicity.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

- Small hypoechoic nodule within the splenic parenchyma – There is a non-cavitated, hypoechoic splenic nodule visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.

- Hypoechoic, prominent pancreas with surrounding hyperechoic mesentery – The pancreatic changes are most consistent with moderate to severe 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.

- 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.

- Distended gallbladder with dilated common bile duct – suggestive of an extrahepatic biliary obstruction. No focal obstruction is noted, but there is concern for an obstruction due to a swollen

pancreas.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

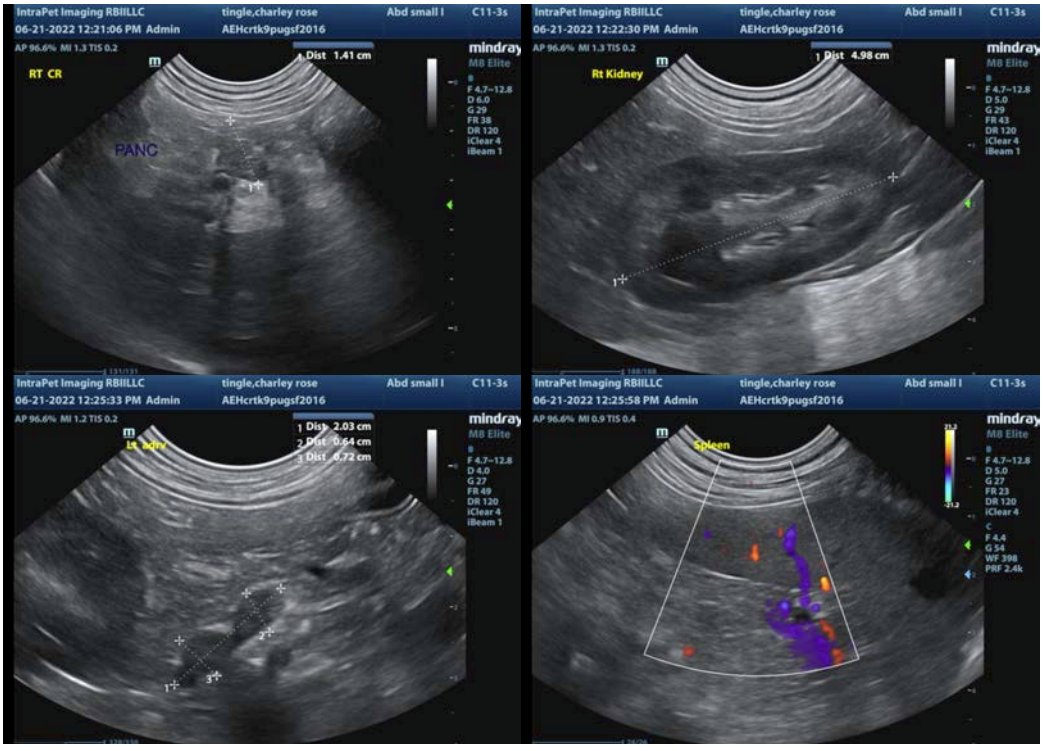
The pancreas is hypoechoic and irregular and has hyperechoic mesentery surrounding it. These changes are consistent with moderate to severe pancreatitis. Recommend aggressive therapy (ideally in-hospital) for pancreatitis with a low-fat diet, pain medications, nausea medications, fluids, etc.

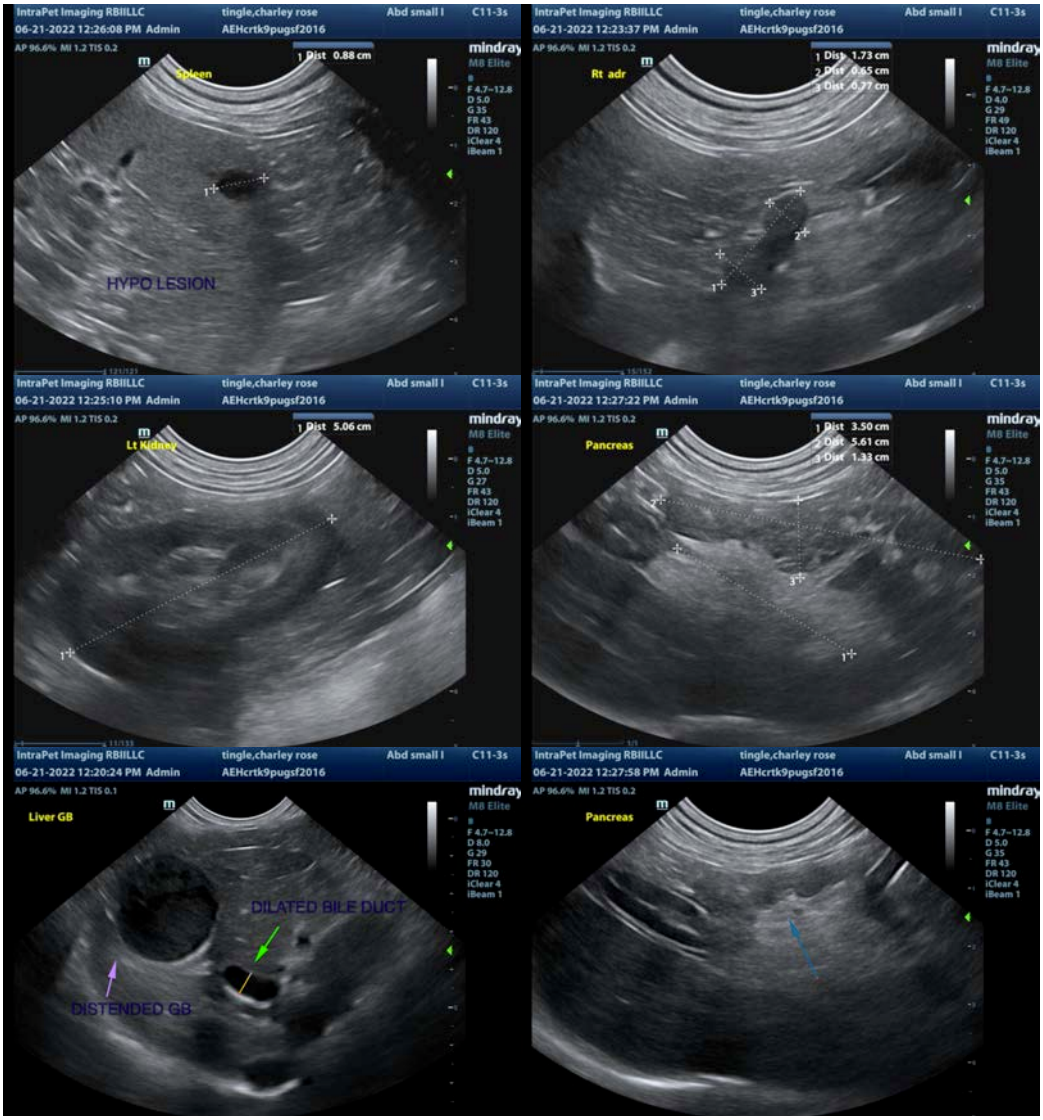
There is concern based on the appearance of the gallbladder and bile duct that there is an extrahepatic biliary obstruction secondary to pancreatitis. Other possibilities would include a biliary stricture or small mass, which is not clearly visualized. I feel these cases are challenging, as it can be difficult to know when to surgical intervene. If at all possible, medical management is preferred, so I tend to try and be fairly aggressive with my pancreatitis therapy (consider plasma, etc.).

If surgery is necessary, a stent can be placed, or other similar therapy, but prognosis with surgery can be guarded. Recommend continued monitoring of the gallbladder with ultrasound, and therapy with Ursodiol and antibiotics in case there is an element of cholangiohepatitis present.

There is a small hypoechoic nodule visualized in the spleen. Consider a fine needle aspirate and continued monitoring of this lesion with ultrasound.

Consider three view thoracic radiographs to rule out 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.

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