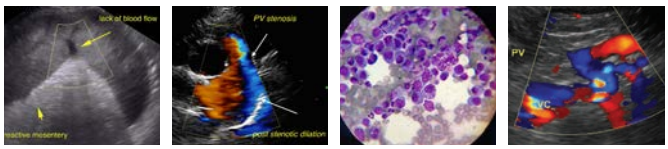
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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1-800-838-4268 info@sonopath.com

PATIENT

Murray Blankenship

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

5 Years 10 Months

WEIGHT

13.4 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Meghan Myers

HOSPITAL NAME

Hershire AH

REFERRING VET

Dr. Meghan Myers

INVOICE

41878

DATE

10/7/22

PRESENTING CLINICAL SIGNS

BW mid aug wnl with exception ALP slightly elevated was normal at this time. 9/28 acting lethargic and since then intermittent vomiting and inappetence with no improvement with OP care.

Abnormal PE/Chem/CBC/UA Results: Finally rechecked BW 10/4--elevated ALT, ALP,

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 (4.73 cm). Overall echogenicity is normal with adequate 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.6 cm). Overall echogenicity is normal with adequate 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

Spleen

The spleen is subjectively normal in size (0.83 cm in width at the level of the hilus), 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.

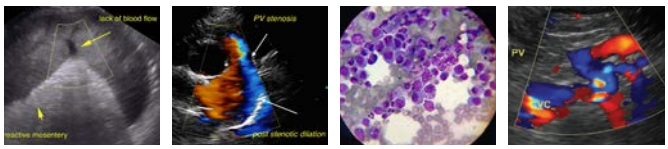
Liver

The liver is subjectively normal in size with smooth peripheral margins. The parenchyma is hyperechoic and homogenous in echotexture. There are pinpoint mineralizations within the hepatic parenchyma, most consistent with stones in the intrahepatic biliary ducts. No focal nodules or cystic lesions are observed.

The gallbladder lumen is mildly distended with anechoic material. The bile duct is tortuous, thick walled, and dilated, measuring approximately 0.43 cm. This extends beyond the liver margins with occasional hyperechoic foci, but not obvious point of obstruction is visualized.

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.



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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 0.13-0.38cm in wall thickness) and the jejunum measured as normal (between 0.15-0.36cm.) 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 slightly hypoechoic with a very prominent, thickened, dilated pancreatic duct measuring 0.34 cm.

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

- Hyperechoic liver with intrahepatic mineralizations – Hepatic changes are non-specific and could be consistent with hepatic lipidosis, inflammatory/infectious disease, infiltrative neoplasia, or other hepatopathy. The hyperechoic mineralizations are most consistent with stones in the intrahepatic biliary ducts.

- Bile duct dilation with mineralizations – Dilation of the common bile duct could be consistent with a functional obstruction (i.e. primary hepatic disease resulting in hepatocellular swelling) or with an extrahepatic bile duct obstruction (ie. choledocholith, bile duct tumor, pancreatic disease, other).

- Thickened, dilated pancreatic duct – Findings could be consistent with an obstruction at the duodenal papillae or pancreatic disease.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are numerous small intrahepatic stones within the intrahepatic biliary ducts. The gallbladder appears relatively normal, but the bile duct is thick walled, tortuous and dilated with occasional intraluminal hyperechoic stones, but no obvious point of obstruction. Findings are most consistent with cholestasis secondary to chronic biliary obstruction.

The additional dilation of the pancreatic duct causes concern for possible previous or current obstruction at the level of the duodenal papillae. These types of changes can be seen with chronic cholelithiasis and secondary inflammation, underlying neoplasia, underlying infection, etc.

Recommend treatment with Ursodiol, antibiotics, +/- an anti-inflammatory dose of Prednisolone (0.5 mg/kg per day), although it would be ideal to consider a fine needle aspirate of the liver if coagulation parameters permit to look for underlying round cell neoplasia. Close continued monitoring with ultrasound and repeat bloodwork is warranted +/- feeding tube, as there could be a component of lipidosis here, or even Triaditis. If there is no response to medical therapy, consider consultation with a surgeon. A preoperative CT scan may be helpful to look for a small mass lesion that is not visible on today's scan.

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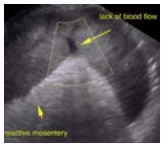
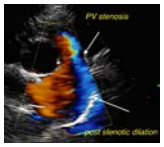
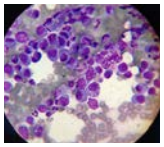
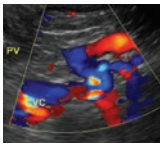

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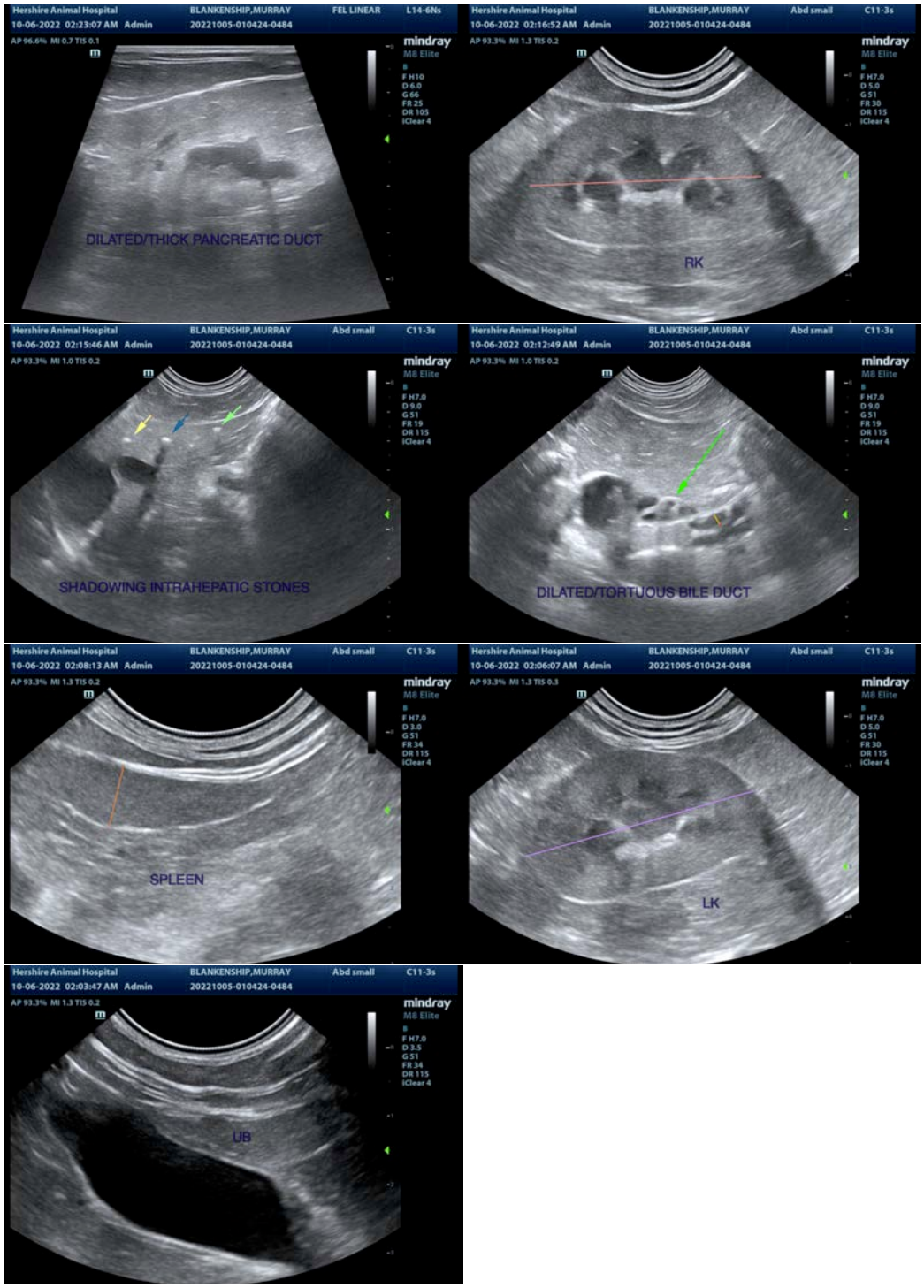
Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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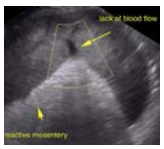
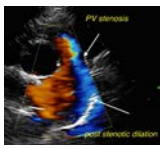
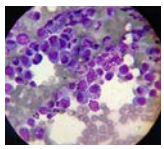
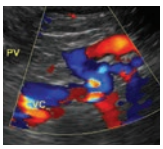

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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