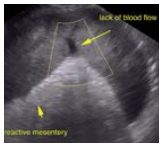

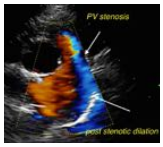

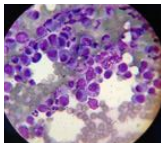
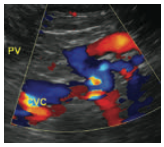

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PATIENT

Eight-Bit Patch

SPECIES

Feline

BREED

DSH

SEX

Female

AGE

6

WEIGHT

3.43 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Sharma

HOSPITAL NAME

Edmonton West Animal Hospital & Spay/Neuter Centre

REFERRING VET

Dr. Bouclin

INVOICE

10117

DATE

3/16/2023

PRESENTING CLINICAL SIGNS

The patient is not eating since last several days (at least 72 hrs), first time presented with anorexia and vomiting a total of 4 times in last 24 hours. Also is lethargic since last week. Possible weight loss as well. Based on blood work and x-rays sent home on cerenia, mirtazipine, metronidazole, and zeniquin. Gave injection of convenia as well. Cat is still not eating so did ultrasound scanning. Gave mild sedation (torb and midazolam) for scan.

Abnormal PE/Chem/CBC/UA Results: Starting to turn bit icteric. Chemistry: low creatinine 59 (71-212), low urea 4.8 (5.7-12.9), high ALT 706 (12-130), high ALKP 139 (14-111), high Total Bilirubin 38 (0-15) fPL and CBC normal. Abdominal rads NSF. Patient was resentful on cranial abdomen scanning.

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 (3.83 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 (3.45 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 left adrenal gland is normal in size measuring 0.40 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 0.36 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.

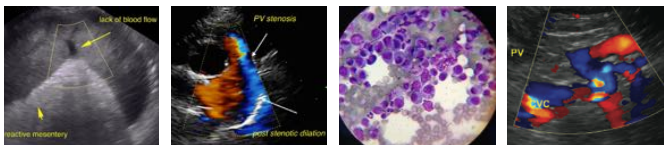
Spleen

The spleen is subjectively normal in size (0.50 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 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 minimally distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. Sections of the bile duct



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are visualized which appear torturous and somewhat dilated measuring at 0.35 cm with intraluminal debris. The bile duct cannot be followed distally.

Gastrointestinal

The stomach has mild to moderate fluid distention. 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. The duodenum measured as normal (0.24 cm in wall thickness), and the jejunum measured as normal (0.20 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 prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

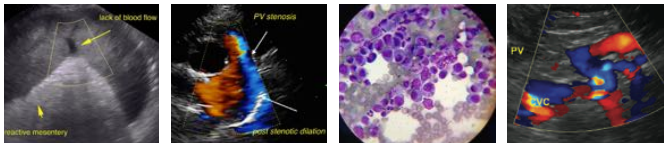
Evaluation of the peritoneal cavity did reveal a small amount of free abdominal fluid partially in the cranial abdomen and near the gallbladder. No lymphadenopathy is noted. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is diffusely hyperechoic.

Other

There is a tubular structure visualized dorsal to the urinary bladder, ventral to the colon most consistent with a uterine body. Uterine horns cannot be definitively identified but there is a possibility of fluid dilated uterine horns.

ULTRASONOGRAPHIC FINDINGS

- Prominent hypoechoic pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis, or chronic pancreatitis.
- Large heterogenous liver. Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.
- Dilated torturous bile duct. 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 (i.e., choledocholith, bile duct tumor, pancreatic disease, other).



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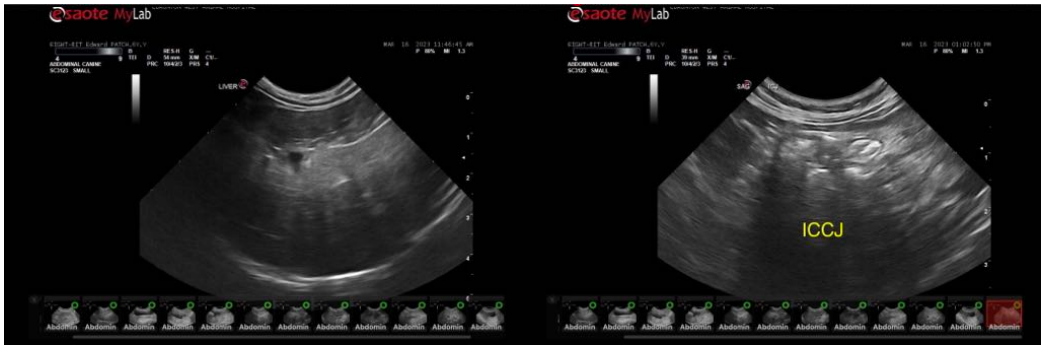
- Moderate fluid distention of the stomach, correlate with feedings history. Findings could be consistent with delayed gastric emptying or partial out flow tract obstruction.
- Uterine body visualized concern with possible intact female +/- pyometra.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a lot going on in the abdomen. In the cranial abdomen the liver is large and heterogenous. Additionally, the gallbladder appears somewhat “deflated” with a prominent torturous bile duct. I cannot see a point of obstruction but there is some free fluid in the region of the gallbladder. Findings could be consistent with a primary hepatopathy but a biliary obstruction, rupture, etc. cannot be definitively ruled out. If possible, consider sampling of free fluid and a fine needle aspirate of the liver (provided coagulation parameters are normal.)

In the mid abdomen there are some mildly fluid filled loops of bowel and some unidentifiable tubular structures which cannot be confirmed as uterus but could represent uterine horns. In the more distal abdomen, the uterine body can be visualized but I cannot clearly visualize the horns. An intact female is suspected but cannot be definitively visualized. Options moving forward could include surgical liver biopsy and evaluation for an intact uterus, but only if the patient is stable enough. Consider the possibility of biliary disease which may prove to be a very challenging surgery. Ideally, I would consider a contrast CT scan to better differentiate from the possible multiple issues going on.

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



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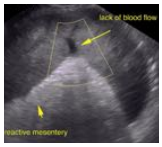

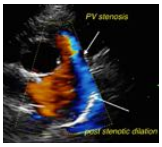

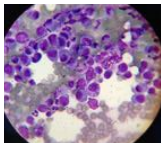
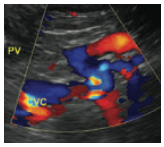

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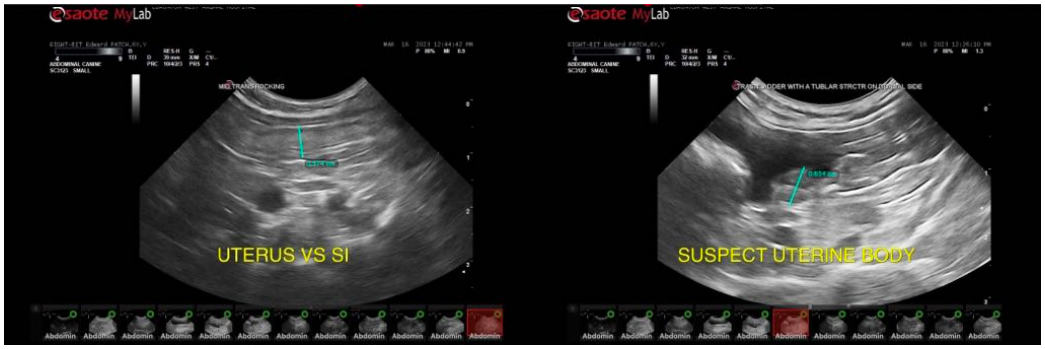

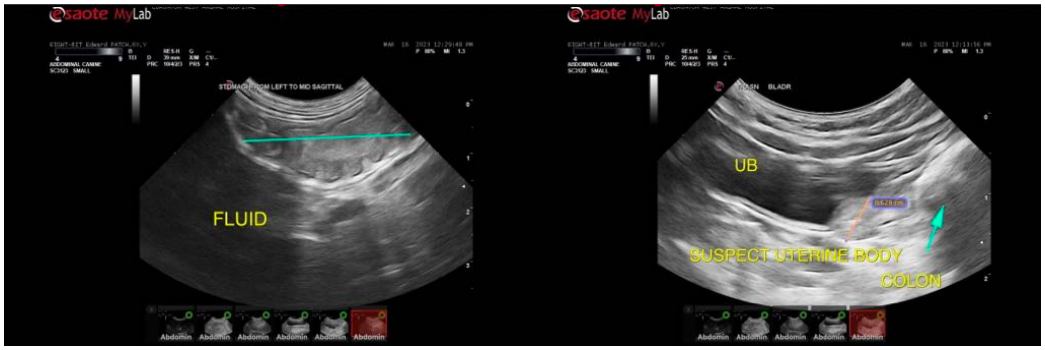

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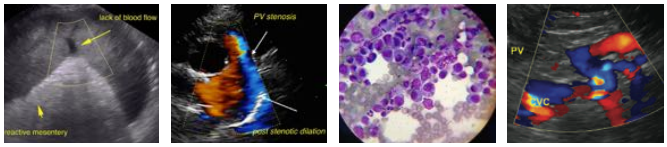

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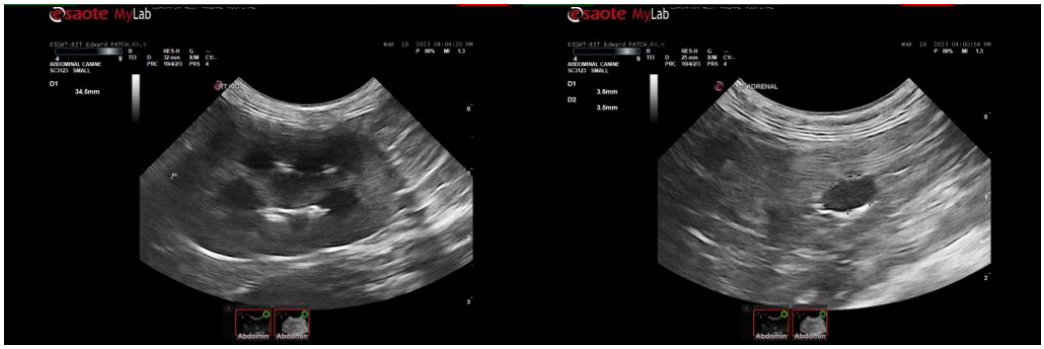

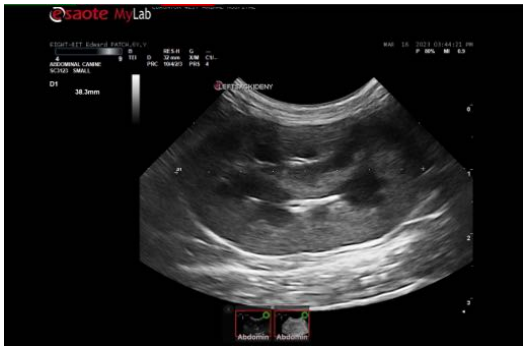

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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