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Clinical Sonography & Telecytology
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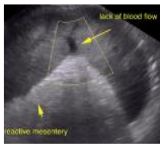
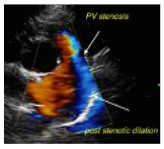
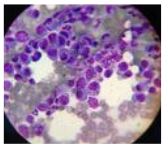
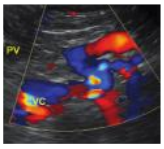

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1-800-838-4268 info@sonopath.com

PATIENT
Fluffy Sabin

SPECIES
Feline

BREED
DSH

SEX
Neutered Male

AGE
16 Years

WEIGHT
10.6 Pounds

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

IMAGING PERFORMED BY
Amy Mayhew LVT

HOSPITAL NAME
SVS Imaging MI

REFERRING VET
Family Pet Practice

INVOICE
15126

DATE
5/12/22

PRESENTING CLINICAL SIGNS

History: Current Medications: Mirtazapine Transdermal SID Denamarin small dog/cat 1 tab PO SID Famotidine 0.25ml IV last given 5/11/22 Ursodiol 50mg 1 cap PO SID Amoxicillin 50mg/ml 1.2ml PO BID - started 5/10 Clindamycin 25mg/ml 2.5mL PO BID - started 5/9, discontinued 5/11/22 PM fortiflora 1/2 packet on food BID Maropitant 0.5ml IV SID Prednisolone 5mg 1/2 tab PO BID- started 5/11/22 Buprenirphine SR Given 5/10/22 gabapentin 100mg 1 cap PO given 5/12/22 Patient History: Presented 5/9 for decreased appetite, lethargy, weight loss. Indoor/outdoor. No known toxin ingestion. No c/s/d/v. elevated liver enzymes on bloodwork. Hospitalized for IVF, medical management, nutritional support. 5/09/22 5/10/22 5/11/22 Recheck liver panel ALT 540 471 420 ALP 210 232 257 GGT 27 15 10 Tbili 1.3 2.8 3.7

Abnormal PE/Chem/CBC/UA Results: Abnormal Examination Findings: 1. QAR to BAR- P more active during exam today. 5. Slight icteric MM, hydration improving 8. Presented with IVC bandage intact on left forelimb, clean and dry. 9/10. Mild to moderate tensing cranial abdominal palpation 12. Symmetrical muscle atrophy over both rear limbs **See attached labs from this week.

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 2 cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (4.35 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. Mild pyelectasia is present, measuring 0.31 cm.

The right kidney has a normal shape and size (4.31 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.39 cm at the caudal. 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.

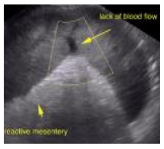
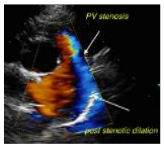
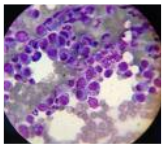
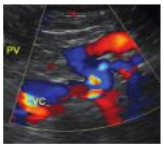
The right adrenal gland is normal in size measuring 0.4 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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. No focal parenchymal abnormalities are visualized.

Liver

The liver is subjectively large in size and rounded. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear

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normal. There is a moth-eaten cystic region of the liver near the gallbladder, measuring approximately 1.73 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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.

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 jejunum measured as normal (0.19 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 a focal area in the right limb of the pancreas where there is a hypoechoic focal region, measuring approximately 1.74 cm, most consistent with a cyst or abscess, less likely a hypoechoic nodule. The omentum is of increased echogenicity around this region of the pancreas.

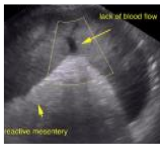
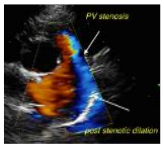
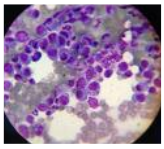
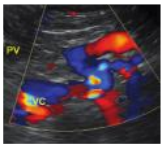
Free Abdomen

There is no free fluid. There is significant mesenteric inflammation in the cranial abdomen in the region of the right limb of the pancreas and caudal to the liver. In this region there is a structure most consistent with a cystic gastric lymph node, measuring 0.77 cm.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Large heterogeneous rounded liver. Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.
- Moderate gallbladder debris. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting. Incidental gall bladder debris is less common in cats.
- Hypoechoic prominent pancreas with focal hypoechoic lesion and surrounding inflammation. Findings are concerning for a possible pancreatic abscess, less likely cyst or nodule with surrounding inflammation.

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- Focal cystic region in the liver. The significance of this is unclear, but given the lesion observed in the pancreas, a cyst, abscess or neoplastic lesion is possible.

- Cranial abdominal lymphadenopathy. The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

Secondary Findings

- Decreased corticomedullary distinction in both kidneys. The bilateral renal findings are consistent with age-related change.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The ultrasonographic changes in the liver were relatively mild. Unfortunately, the sonographic changes do not always reflect the severity or cause of the hepatopathy. Systemic causes for cats with elevated liver enzymes include hyperthyroidism, DM, sepsis, toxicity (meds etc.), FIP, etc.) If these conditions are unlikely then a primary hepatopathy (infectious, inflammatory, lipidosis, neoplasia) is suspected.

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc.
- Recommend thyroid evaluation (if not already done)
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- I recommend a fine needle aspirate of the cystic area if you're able to reach it
- Consider fine needle aspirate if round cell neoplasia is on your differential list (25 g needle, normal coags)
- If cytology is not helpful and there is no response to therapy, consider liver biopsy with samples obtained for histopathology and culture.
- If triaditis is suspected consider therapy for cholangiohepatitis (fluids, antibiotics, +/- ursodiol, +/- steroids), testing for pancreatitis and evaluation for IBD (GI panel to Texas A&M GI lab)
- Consider a feeding tube if patient is not eating for a prolonged period of time

There is a focal hypoechoic region visualized in the pancreas, which I'm concerned could be a pancreatic abscess, less likely nodule or cystic structure. I recommend an aspiration/drainage of this lesion. If fluid is obtained, I recommend fluid analysis, cytology and culture (aerobic and anaerobic). Additionally, you could consider instilling Baytril into this lesion if it appears to be an abscess.

If there is minimal response to aggressive therapy for a pancreatic abscess, pancreatitis and cholangiohepatitis, then I would consider either advanced imaging (contrast CT scan) to further evaluate the abdomen and/or surgical evaluation with biopsies obtained of the liver, pancreas and GI tract, as well as possible omentalization of the pancreatic lesion and evaluation of the gallbladder.

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

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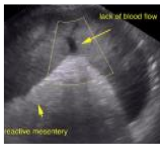

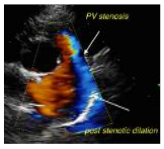

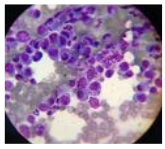
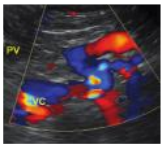

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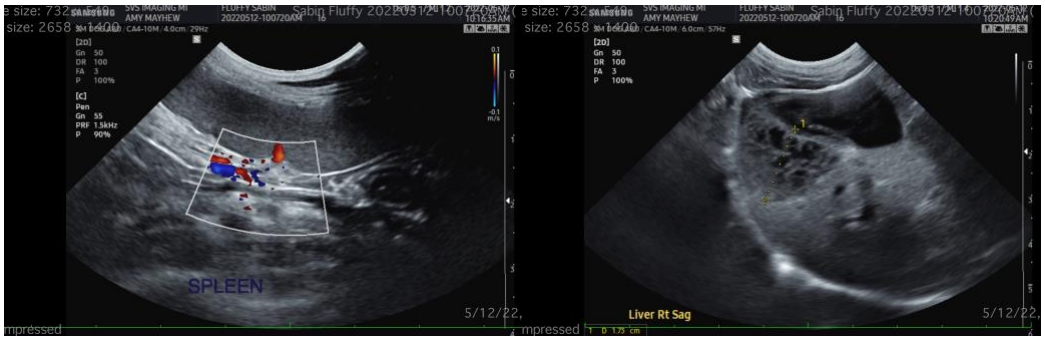

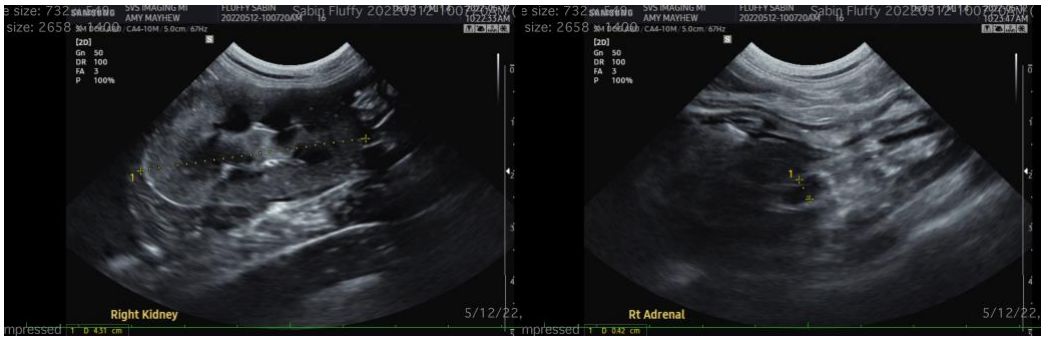

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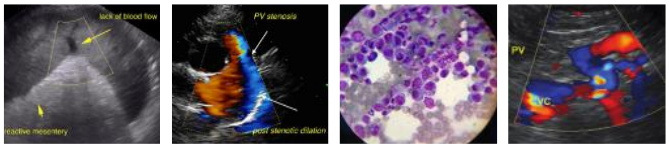

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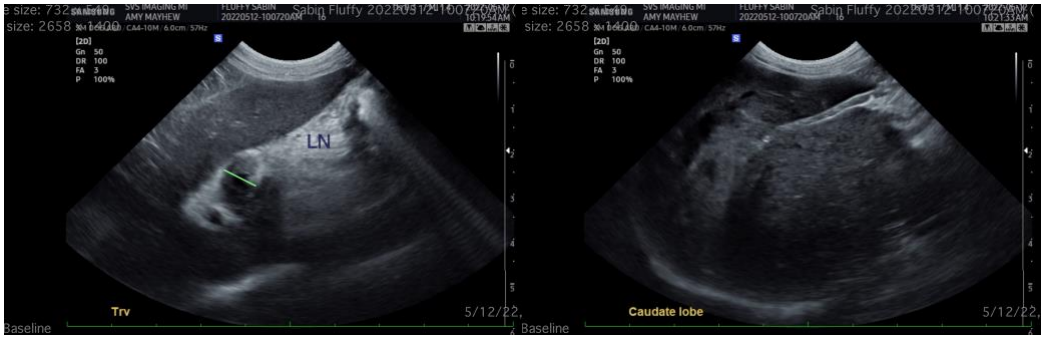

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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