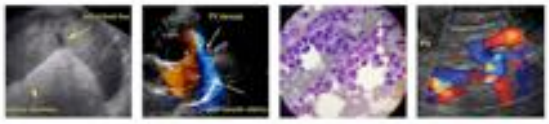

PATIENT

Angel Milroy

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Spayed Female

AGE

14 years

WEIGHT

6.11 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, RVT

HOSPITAL NAME

Four Paws Animal Clinic

REFERRING VET

Dr. Murphy

INVOICE

96259

DATE

2/23/22

PRESENTING CLINICAL SIGNS

Patient's Name Angel Owner's Full Name Margie Milroy Species Feline Gender (Altered?) Spayed female Age/ DOB 14y 6m Weight in Pounds 6.11# Breed DSH History Historical elevation in liver enzymes and bilirubin Physical Exam Findings QAR mild dehydration Icterus Abnormal CBC Values No recent data PCV 38% Abnormal Chemistry Values Ca 11.7 (8.2-11.2) ALT 333^ AST 136^ ALP 309^ T bili 1.2 (0.0-0.3) All bili elevated Cholesterol: 451 (91-305) Abnormal UA Values N/A Radiograph Findings (Email if Available) N/A Reason for Ultrasound R/O chronic pancreatitis, liver disease, bile duct obstruction.

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 (3.4 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. Multiple, large, non-obstructive nephroliths were noted. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (2.79 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. A large, 0.4 cm, non-obstructive nephrolith was noted. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.37 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, 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. The spleen measures 0.94 cm in height at the level of the hilus.

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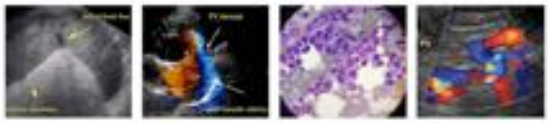

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Spayed Female

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Liver

The liver is subjectively normal in size, and echogenicity with somewhat irregular peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. There are numerous, ill-defined, hyperechoic nodules within the parenchyma measuring 0.71 x 0.5 cm. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The bile duct appears dilated and tortuous measuring 0.5 cm in diameter. A focal obstruction is not visualized, but the bile duct cannot be followed all the way to the duodenal papilla.

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 duodenum measured as normal (0.8 cm) and the jejunum measured as normal (0.26 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 0.36 cm anechoic cystic structure at the cranial portion of the left limb of the pancreas. There is an ill-defined 1.41 x 1.1 cm hypoechoic lesion (mass/lymph node?) in the area of the body of the pancreas. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There are prominent mesenteric lymph nodes visualized measuring 0.4 cm, 0.4 cm and 0.37 cm. The omentum is of normal uniform echogenicity.

Heart

A brief view of the heart was submitted. No pericardial effusion was seen. There is a hypoechoic structure visualized in the thorax between the liver and the heart measuring 1.15 x 0.89 cm. This is most consistent with an intrathoracic lymph node/nodule.

There is a hypoechoic nodule/mass effect measuring 1.41 x 1.1 cm visualized in the area of the body of the pancreas. This lesion is most consistent with either a prominent lymph node or pancreatic lesion.

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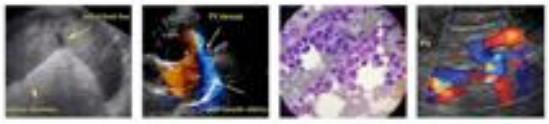

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pawsonography@gmail.com 530-786-8340

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ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Heterogenous liver with ill-defined hyperechoic nodules. Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.
- Dilated tortuous common 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 (ie. choledocholith, bile duct tumor, pancreatic disease, other).
- Prominent, hypoechoic pancreas. The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Decreased corticomedullary distinction in both kidneys with non-obstructive nephroliths. The bilateral renal findings are consistent with age-related change.
- Hypoechoic mass lesion/nodule in the cranial abdomen. Possible differentials for this lesion include an enlarged lymph node, ill defined pancreatic mass, etc.
- Mild mesenteric lymphadenopathy. The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- Hypoechoic, intrathoracic structure. This is most consistent with an intrathoracic lymph node.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is very irregular and heterogenous. Additionally the bile duct appears tortuous and dilated, but the gallbladder itself is relatively small. These findings are more consistent with a primary hepatopathy although biliary involvement cannot be excluded as a possibility.

- 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 (can skip if bilirubin is elevated)
- 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.
- Recheck gallbladder and bile duct in 48-72 hours to look for progressive distension.

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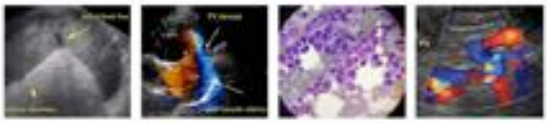

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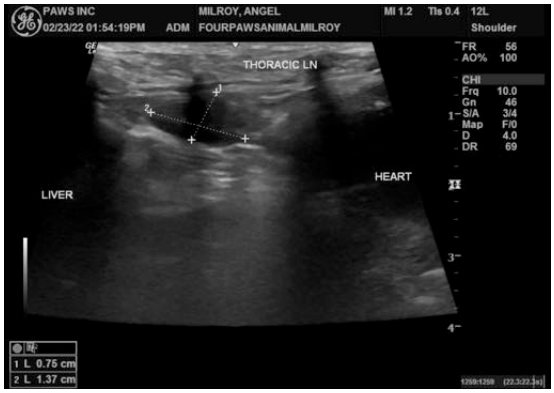
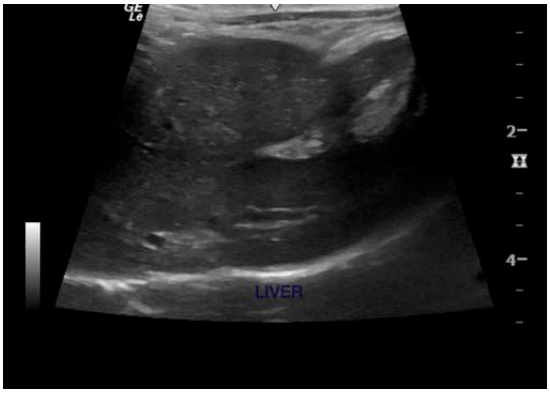
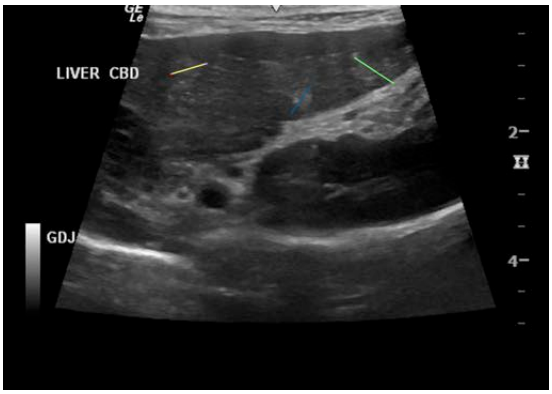
- If triaditis is suspected consider therapy for cholangiohepatitis (fluids, antibiotics, Ursodiol, Denamarin +/- steroids), testing for pancreatitis and evaluation for IBD (GI panel to Texas A&M GI lab)
- Consider a feeding tube if patient is not eating for a prolonged period of time

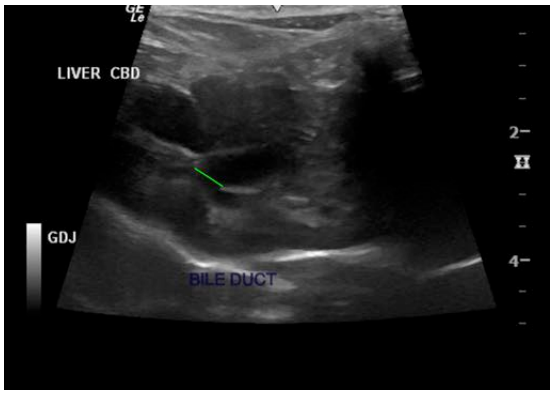
There is a hypoechoic ill-defined lesion visualized in the cranial abdomen. The nature of this lesion is not clear. It could be consistent with lymphoid tissue or associated with the pancreas, etc. Consider a FNA or continued monitoring with ultrasound.

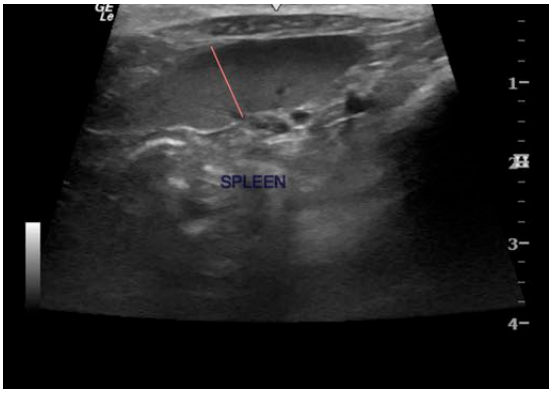
Additionally there is a prominent lymph node in the thorax. I recommend three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

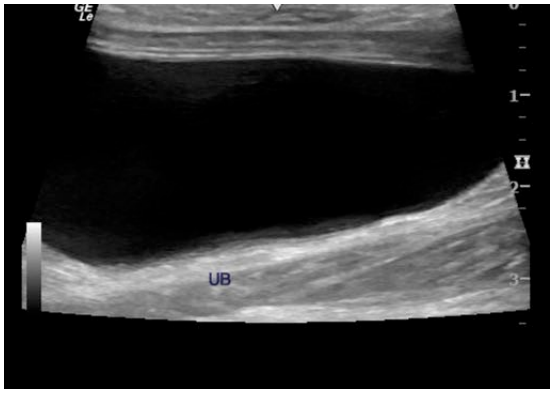












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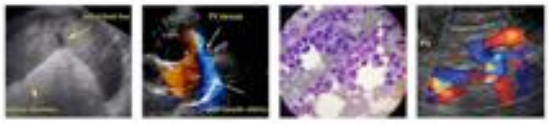

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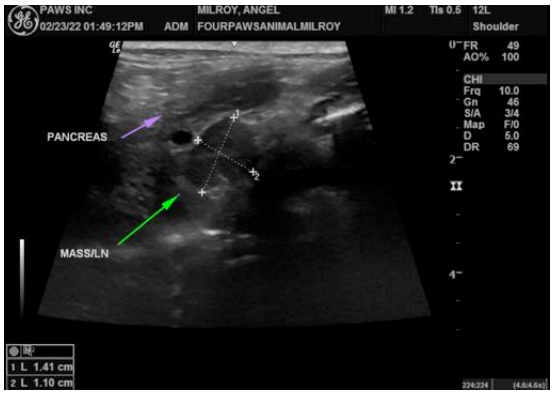

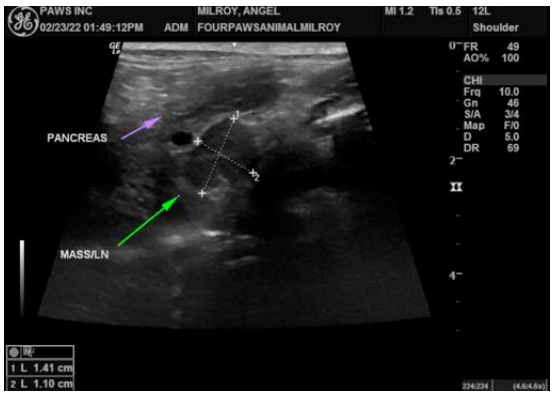

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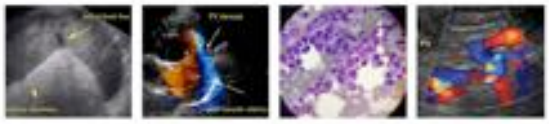

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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