



PATIENT PRESENTING CLINICAL SIGNS

Jerry Kremus History of chronic renal failure, vomiting, diarrhea, decreased appetite. Medication: Mirtazapine

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Feline **Urinary System**

BREED 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.
 DSH

SEX The left kidney has a normal shape and size (3.23 cm). Overall echogenicity is slightly hyperechoic with mildly reduced 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.
 Neutered Malee

AGE The right kidney has a normal shape and size (3.67 cm) with mild pyelectasia at 0.22 cm. Overall echogenicity is slightly hyperechoic with mildly reduced 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.
 2010

WEIGHT **Adrenal Glands**
 8.2

The left adrenal gland is normal in size measuring 0.56 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.

INTERPRETED BY

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 Medicine)

The right adrenal gland is normal in size measuring 0.44 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.

IMAGING PERFORMED BY **Spleen**

Rebekah Jakum, CVT
 ARDMS/RVT

The spleen is borderline large at 0.95 cm. The spleen echotexture is heterogenous and mottled, 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.

HOSPITAL NAME **Liver**

Blue Ridge VC

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

REFERRING VET

Dr. Filchner

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

INVOICE **Gastrointestinal**
 43947

DATE 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.
 7/12/23



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The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall thickness is normal to slightly increased. Bowel loops follow a typical curvilinear path with distinct wall layering, but some areas display a prominent muscularis layer which does not display the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.50 cm. Jejunum wall varies from 0.24-0.40 cm. Visualized peristalsis appears appropriate. While no focal bowel lesions are visualized, the duodenum adjacent to the pancreas appears slightly plicated and thickened, and there is diffuse thickening of the small bowel with intact wall layering.

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, particularly in the right limb. Pancreatic duct measured at 0.26 cm.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is a significant mesenteric lymphadenopathy present with a cluster of abnormal irregular hypoechoic lymph nodes near the ileocecal junction surrounded by hyperechoic mesentery. Lymph nodes in this area measure 0.64 cm and 0.68 cm in diameter. Additionally, there is a cluster of lymph nodes extending into the area of the root of the mesentery. A larger lymph node in this region measures at 0.93 cm in diameter. Others measure 0.76 cm and 0.54 cm. The omentum is diffusely hyperechoic, particularly around the pancreas and the mesenteric lymph nodes.

ULTRASONOGRAPHIC FINDINGS

- Mildly reduced corticomedullary distinction in both kidneys and mild left-sided pyelectasia – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Borderline large, mottled spleen – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Prominent, hypoechoic, irregular pancreas with a prominent pancreatic duct and surrounding hyperechoic mesentery – The pancreatic changes are most consistent with moderate 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.
- Diffusely thickened small intestine with a prominent muscularis layer – The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia.
- Diffuse moderate mesenteric lymphadenopathy – The moderate mesenteric lymphadenopathy could be concerning for a neoplastic process, although you can see significant lymphadenopathy in some cases of autoimmune/inflammatory disease, infectious disease (tick born disease-such as bartonella, fungal infections, FIP (cats)) etc. A fine needle aspirate with cytology is recommended for further evaluation.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a lot of inflammation present in the abdomen. The small bowel appears diffusely thickened with intact wall layering, but a prominent muscularis layer suggestive of a possible chronic enteropathy. Additionally, there is a significant mesenteric lymphadenopathy with clusters of large irregular lymph nodes. These could be inflammatory, but there would be concern for possible neoplastic transformation. Recommend a fine needle aspirate of a mesenteric lymph node.

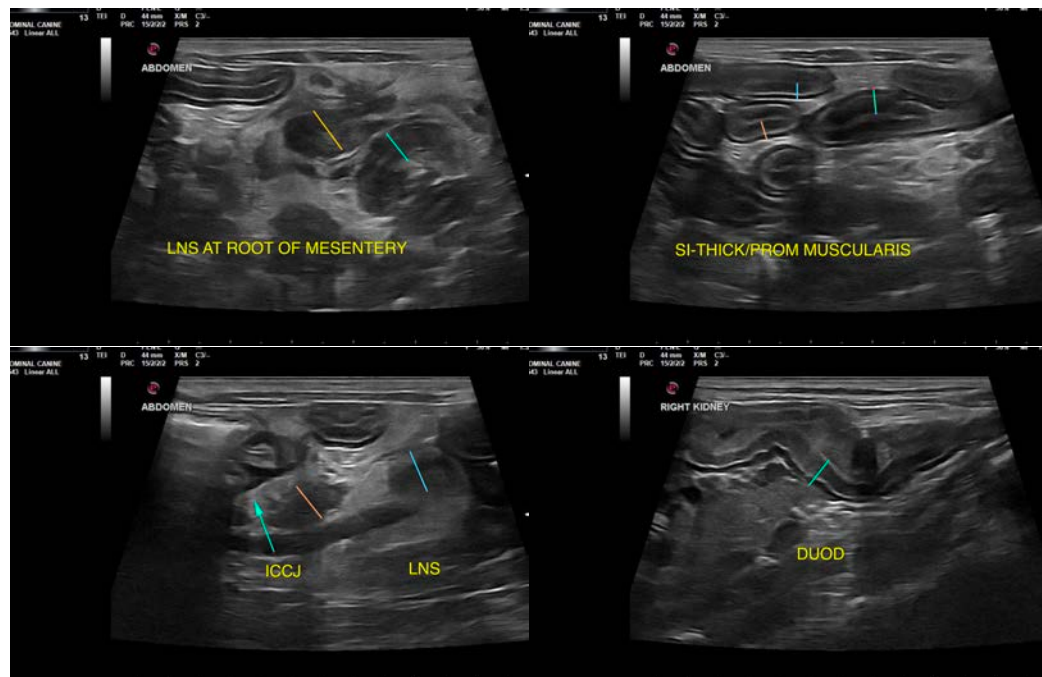
Additionally, the right limb of the pancreas is hypoechoic, large, irregular, and surrounded by hyperechoic mesentery. This is likely consistent with significant pancreatic inflammation, but given the other findings, infiltrative disease to the pancreas cannot be ruled out. A fine needle aspirate of the pancreas could be considered.

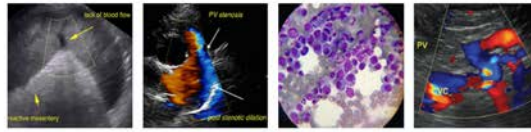
There are changes observed in the kidneys consistent with chronic renal disease, but I suspect this is not the primary issue but has become more apparent possibly secondary to dehydration, etc.

The spleen appears subjectively “plump”, and the parenchyma is somewhat mottled. A fine needle aspirate of the spleen could also be considered.

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

If a fine needle aspirate of the lymph node, pancreas, and spleen is not diagnostic, surgical biopsies may be necessary.





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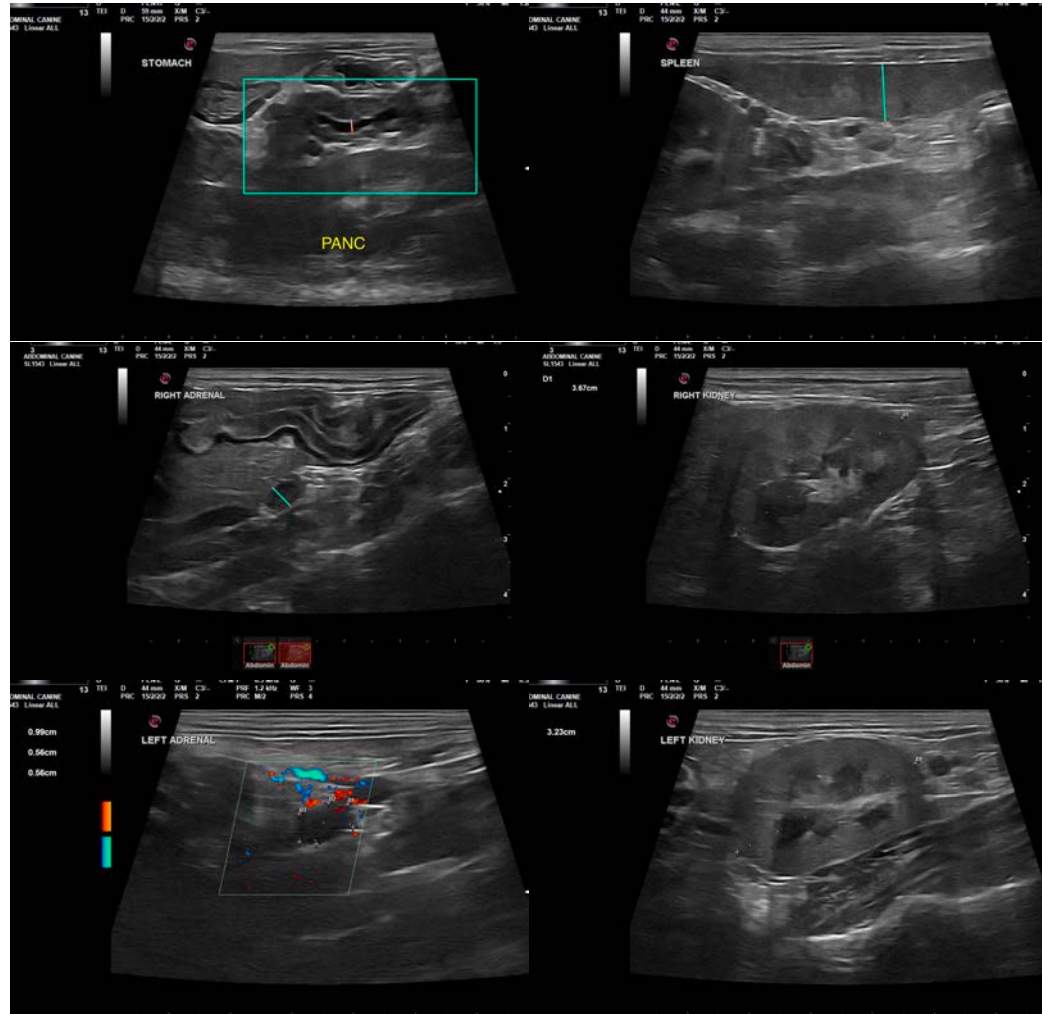
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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