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Clinical Sonography & Telecytology
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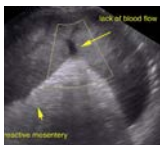
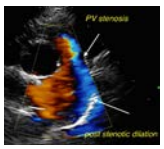
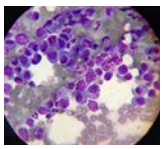
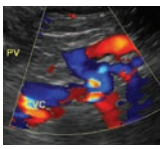

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1-800-838-4268 info@sonopath.com

PATIENT

Ringo Applegate

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

10 Years

WEIGHT

10.9 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Animal Paradise Hospital

REFERRING VET

Dr. Hellworth

INVOICE

46471

DATE

4/6/23

PRESENTING CLINICAL SIGNS

Patient presents for mild effusion in the peritoneal space, inflammatory or malignant etiology, appearance if small bowel is concerning for discrete round cell neoplasia. Hepatomegaly; R/O hepatic lipidosis or neoplastic process such as lymphoma.

Abnormal PE/Chem/CBC/UA Results: MCH 17.9, MCHC 38.8, Neuts. 10.35, Lymph 0.39, Bas. 0, MPV 23.8.

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 (3.63 cm). Overall echogenicity is slightly hyperechoic with poor 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 (3.6 cm). Overall echogenicity is slightly hyperechoic with poor 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 is visualized.

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 is visualized.

Spleen

The spleen is subjectively normal in size (0.91 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.

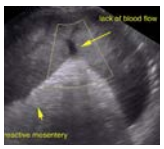
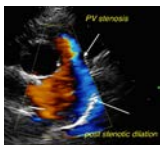
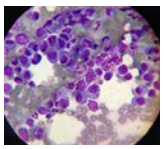
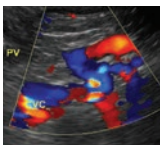
Liver

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 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.

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

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and there is no impression of reduced peristaltic activity. In some views, the pylorus appears slightly prominent with a prominent wall measuring 0.50 cm.

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 0.22 cm. Jejunum wall measures 0.25 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

There is a moderate amount of anechoic free fluid. There are occasional hypoechoic prominent mesenteric lymph nodes visualized measuring 0.56, 0.43, and 0.30 cm. The omentum is diffusely mildly irregular and hyperechoic.

ULTRASONOGRAPHIC FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Prominent, hypoechoic pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Large, mildly heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Questionable thickening of the pyloric wall – I suspect this is artifact, but consider such differentials as inflammation, edema, less likely neoplastic infiltration.
- Prominent muscularis layer of the small intestine – The small intestinal wall changes could be consistent with an underlying inflammatory process. These types of changes can sometimes be seen in normal older cats. Correlate with clinical signs.
- Moderate amount of free abdominal fluid
- Mild mesenteric lymphadenopathy – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- Hyperechoic irregular mesentery – Findings are consistent with inflammation +/- steatitis +/- carcinomatosis (seems less likely).

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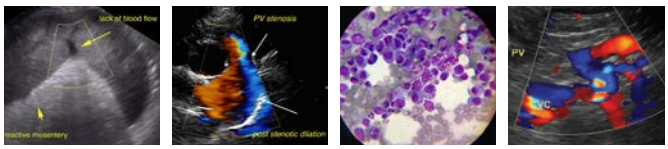

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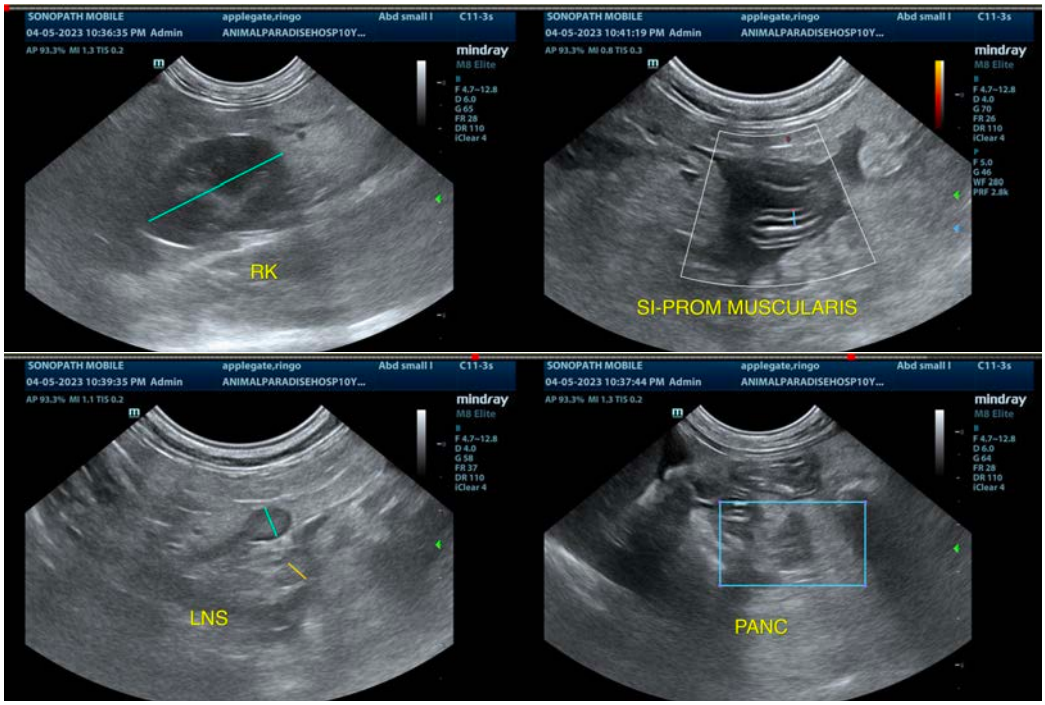
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The general impression of the scan is that of generalized abdominal inflammation with free fluid and edema of many of the abdominal structures. A focus/source of this edema is not readily apparent. The pancreas appears somewhat hypoechoic and prominent in some regions, but there is no focus of the inflammation in these areas. Mild inflammation is possible, or previous episodes of inflammation.

Additionally, the liver appears borderline enlarged and mildly heterogeneous. This is a non-specific finding, and with a lack of liver enzyme elevations, the significance of this is uncertain. You could consider a fine needle aspirate of the liver (provided coagulation parameters are normal).

Additionally, the mesenteric lymph nodes appear somewhat prominent, and the small bowel has a prominent muscularis layer. I suspect these findings are secondary to the free fluid present, but there could be underlying inflammatory lesions.

Recommend sampling, fluid analysis and a cytologic evaluation, and three view thoracic radiographs +/- cardiac evaluation and confirmation of normal albumin levels. Correlate these values with a quantitative fPLI. You could consider empirical treatment for pancreatitis. If you're not seeing evidence of clinical improvement, you could consider reimaging or obtaining biopsies of the mesentery, pancreas, small bowel, lymph nodes, etc., looking closely for a source of inflammation. Additionally, a contrast CT scan could be considered, which may be able to pick up smaller nodules, lesions, etc.



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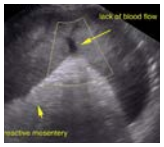
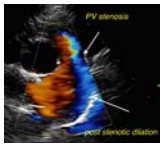
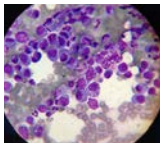
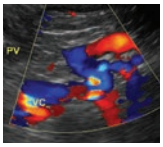

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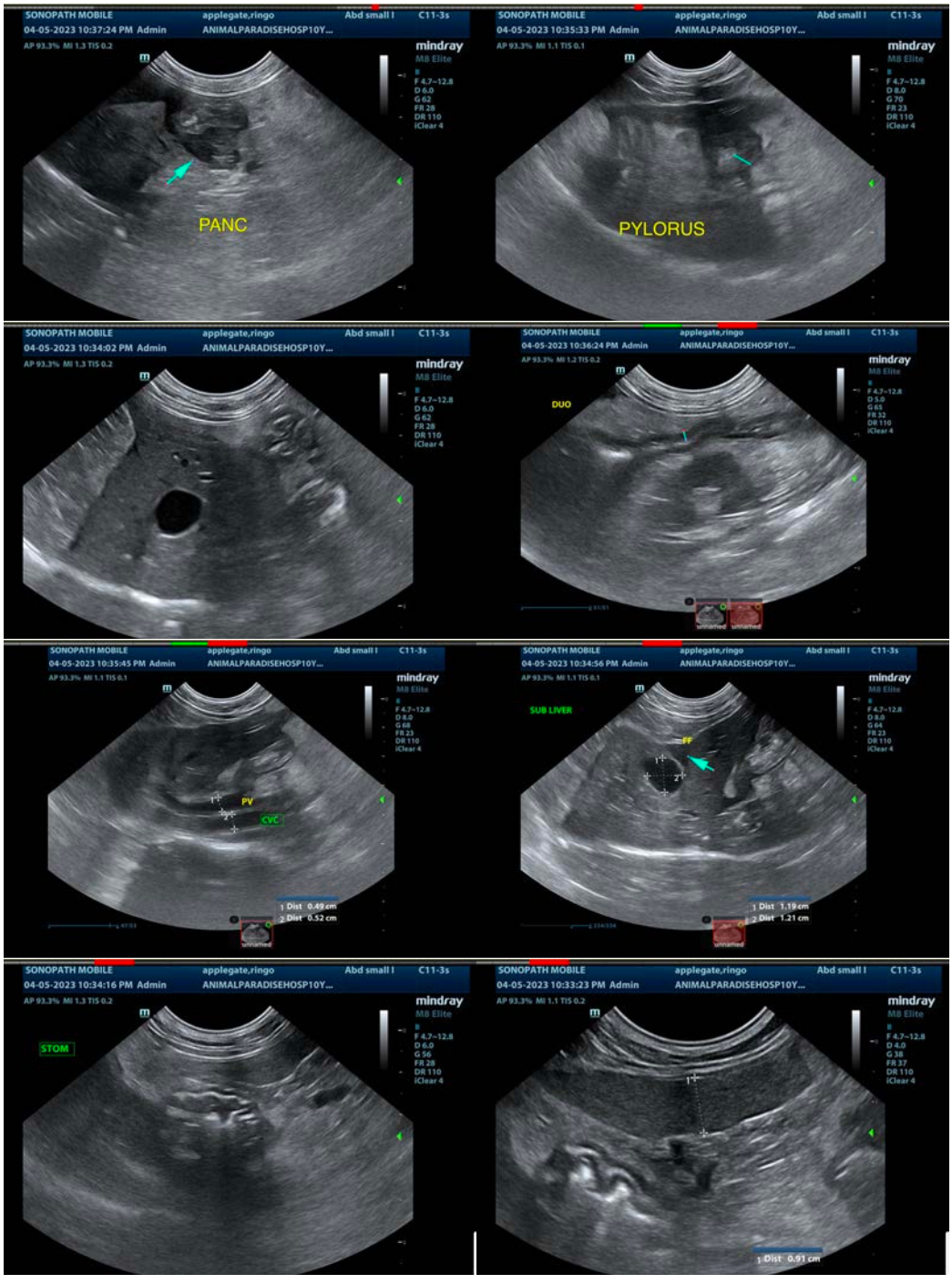

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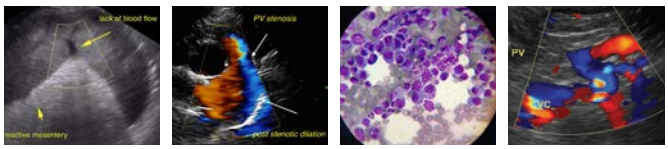

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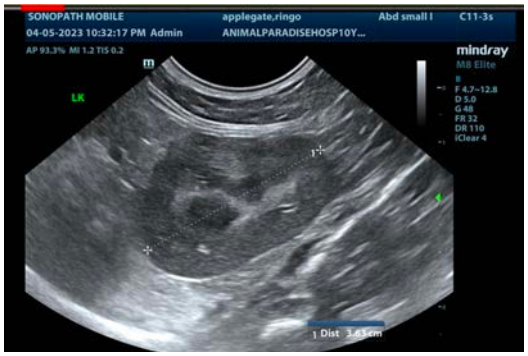

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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