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Clinical Sonography & Telecytology
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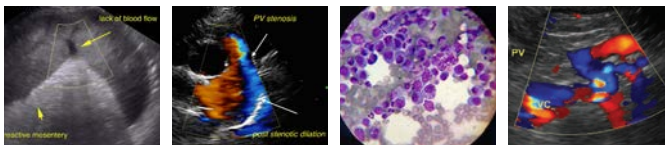

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1-800-838-4268 info@sonopath.com

PATIENT
Jomo Ebert

SPECIES
Feline

BREED
DSH

SEX
Neutered Male

AGE
13 Years

WEIGHT
10.3

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Jessica Green

HOSPITAL NAME
Stanglein Vet Clinic

REFERRING VET
Dr. Nathaniel Stanglein

INVOICE
46625

DATE
4/12/23

PRESENTING CLINICAL SIGNS

Long history of a sensitive stomach. Perhaps some increase in vomiting over the last couple of months but over the past few days more acute vomiting/diarrhea, lethargy. Seen at ER 4/11/23 where rads were suggestive of possible mass. Repeat rads today did not show obvious mass or FR and to me were more consistent with GR/panc vs other. BW normal, with history and some mild weight loss recently considering IBD/Triaditis vs neoplasia vs other. Fecal pending

Abnormal PE/Chem/CBC/UA Results: 4/12 gas in colon, no obvious mass or FB or obstructive pattern.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with a large amount of echogenic non-shadowing debris, which could be partially consistent with incidental suspended lipid in a cat, likely combined with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (4.21 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (3.87 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is normal in size (0.58 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.38 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is moderately in size, with a bilobed appearance, which can be a normal anatomic variant in cats. It contains primarily anechoic bile as well as some suspended echogenic debris. The wall is smooth without visible thickening. The cystic and common bile duct are tortuous in appearance, but not pathologically dilated. There is no evidence of effusion or inflammation.

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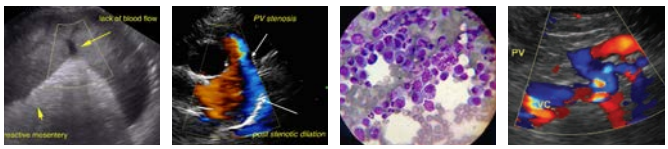

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Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent. It is difficult to fully evaluate the stomach due to reverberation artifact from gas, but in some views the stomach appears mildly fluid distended with primarily echogenic debris. There is no obvious visible foreign material or infiltrative disease.

The visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen is empty with no evidence of obstruction or foreign material.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Liquid stool is present.

**There is a moderately echogenic fluid distended bowel loop throughout the abdomen that is most consistent with location and wall appearance of colon. However, small bowel can't be definitively ruled out, and if it is small bowel, then there is some concern for at least partial obstruction.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

In the cranial abdomen, there is a clump of heterogeneous, hypoechoic structures, most consistent with enlarged lymph nodes. However, a bowel mass cannot be definitively ruled out.

PRIMARY FINDINGS

- **Inflammatory bowel disease (IBD) pattern –** Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling.

- **Cranial abdominal lymphadenopathy –** This could represent reactive lymph nodes. However, infiltrative neoplasia such as lymphoma is a concern as well and can't be ruled out without tissue sampling.

- **Fluid distended bowel –** Believed to be colon. However, if it is small bowel, there is some concern for at least partial obstruction, likely secondary to an infiltrative bowel process.

- **Gallbladder debris** - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness, however, it can also be associated with hepatobiliary disease in cats and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

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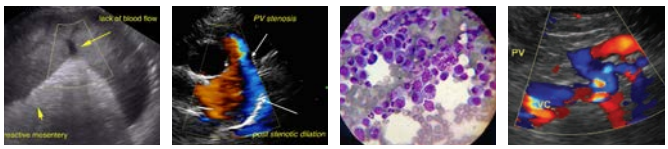

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SECONDARY FINDINGS

- Large amount of urinary bladder debris

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The appearance of this patient's GI tract is most consistent with an infiltrative bowel disease with both benign inflammatory bowel disease as well as lymphoma being differentials, with some weight given to lymphoma, given the appearance of the lymph nodes described above.

The suspected infiltrative bowel disease is presumably resulting in a diffuse ileus as well as diarrhea. Having said that, without the ability to fully differentiate bowel loops in these images, a partial obstruction cannot be definitively ruled out.

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

A fecal enteropathogen PCR panel to Texas A&M GI Laboratory could be considered for further evaluation of possible infectious disease.

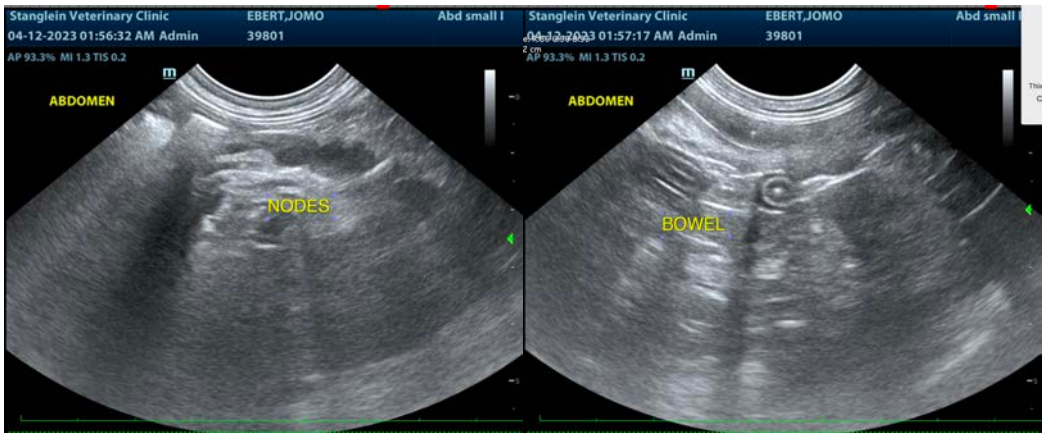
Tissue sampling is recommended to look for further evidence of infiltrative round cell disease such as lymphoma. A fine needle aspirate of enlarged lymph nodes could be considered if patient's coagulation status is appropriate.

If a cytologic diagnosis is not obtained, ideally, biopsies of the GI tract, being sure to include ileum if possible, are recommended to definitively diagnose and therefore manage the infiltrative bowel disease.

If biopsies cannot be obtained, empirical therapies could include a probiotic (if diarrhea is present, such as visbiome or proviable), empirical deworming with a 5-day course of Panacur and, if tolerated, a transition in diet, based on trial-and-error response, beginning with a hydrolyzed protein diet. Some patients respond to one brand/version of a hydrolyzed protein diet better than another brand, so several trials may be required.

Additional considerations could include cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.).

If not recently evaluated, a urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.



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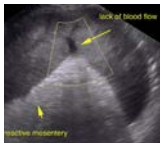
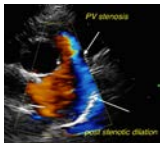
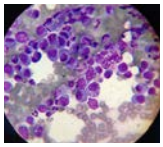
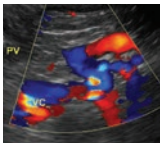

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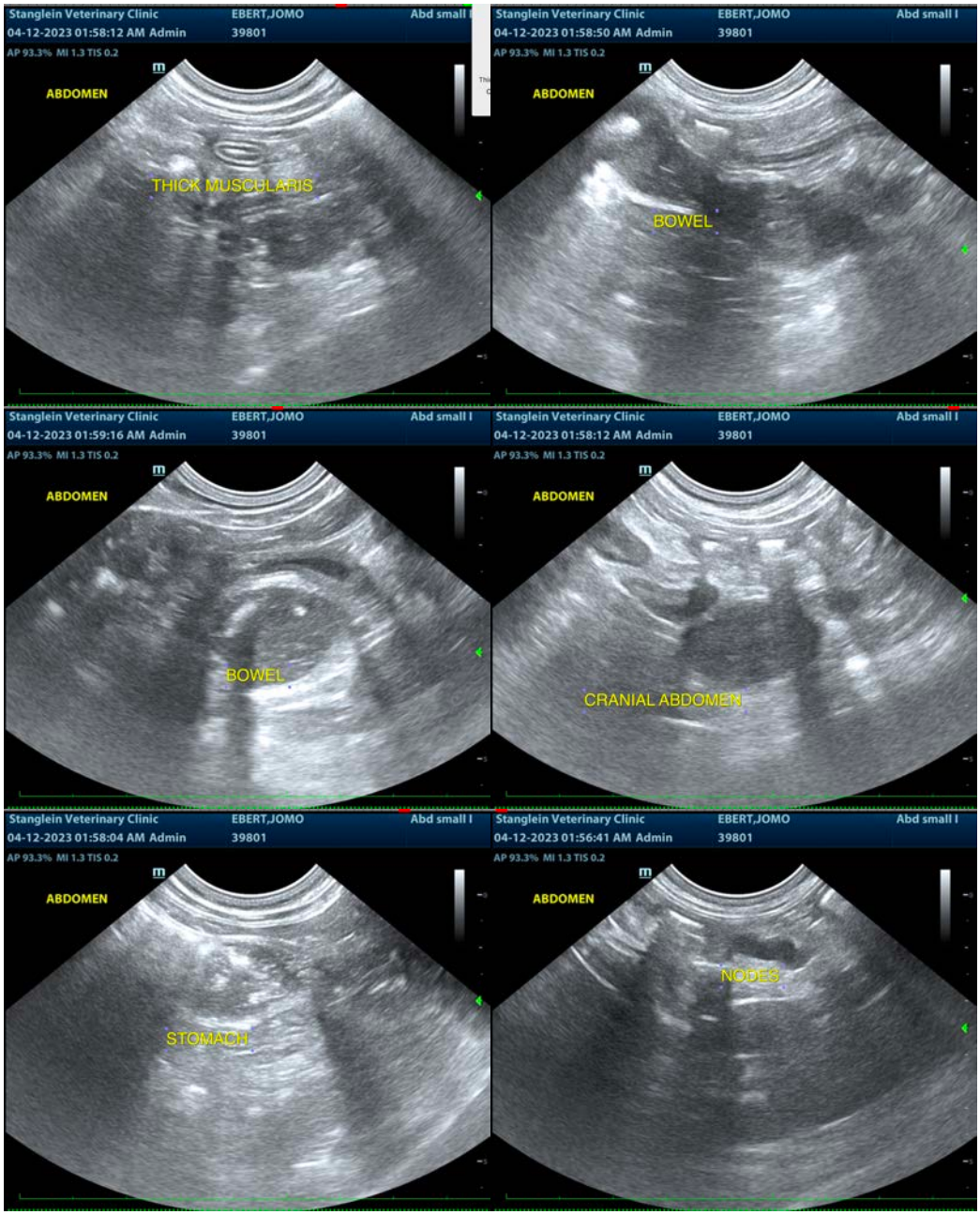

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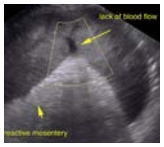
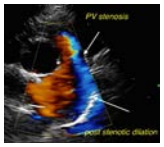
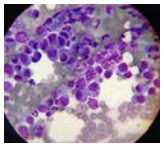
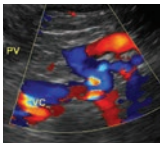

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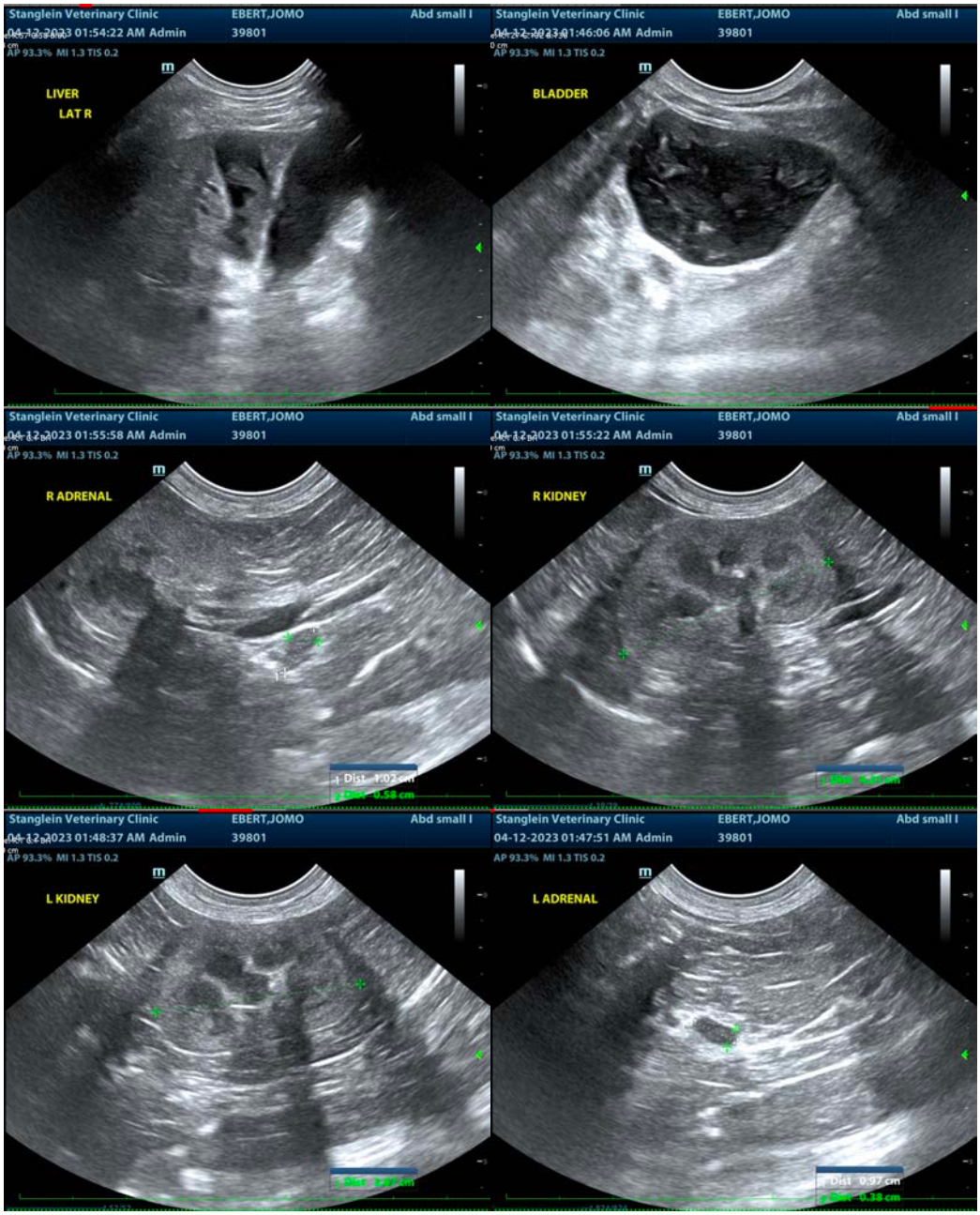

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com