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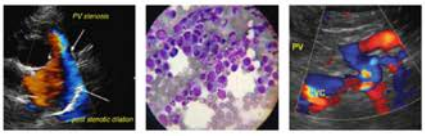

SonoPath
Clinical Sonography & Telecytology
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1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT

Isabella Maiorano

SPECIES

Canine

BREED

Golden Retriever

SEX

Spayed Female

AGE

13 Years

WEIGHT

61 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

REFERRING VET

Union Lake VH

INVOICE

41554

DATE

9/23/22

PRESENTING CLINICAL SIGNS

Vomiting, diarrhea, anorexia started around August 27th. Came in for exam on 8/29 and abdominal and chest films were taken, but bloodwork was declined. Xrays showed some rounding of liver and on fast scan, liver appeared to be irregular. Was prescribed famotidine and sucralfate and given Cerenia injection. Returned on 9/4 because no improvement. Bloodwork done then and famotidine and sucralfate stopped. Started on bland diet, proviable, cerenia, metronidazole, and omeprazole. Also given doxycycline x 14 days since I was concerned about lepto. Improved when on meds, but symptoms recurred once meds finished

Abnormal PE/Chem/CBC/UA Results: Elevated alt and alkp--mild. Pli in house-normal Lepto testing normal Chem/cbc in July 2022 was normal. **Please see attached labs and rads.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is only mildly distended (empty). Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface. If there are urinary signs and/or concern for urinary bladder pathology, reassessment after complete filling is recommended.

The right kidney is normal in size (6.5 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 (5.87 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 (1.0 cm at the cranial pole and 0.74 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.63 cm at the cranial pole and 0.78 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively large in size with subtly scalloped or undulating capsular contour. Parenchyma is normal in echogenicity with a mildly coarse/heterogenous echotexture. A 0.8 cm hypo- to anechoic non-capsule disrupting nodule is present. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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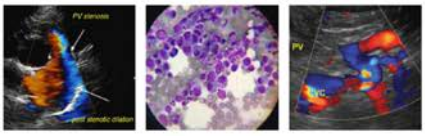

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Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm), except for the proximal duodenum, which is thick, measuring approximately 1.0 cm thick. Normal layering appears intact, but the area is surrounded by enhanced hyperechoic fat and 1.0-1.5 cm round hypoechoic lymph nodes. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The observed pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and irregular in shape with a swollen undulating contour. The body and right limb are more affected than the left limb. Enhanced hyperechoic ill-defined surrounding fat is noted.

Free Abdomen

There is a scant amount of anechoic free fluid in the cranial abdomen around the thick duodenum and pancreas as well as the lymphadenopathy described above.

PRIMARY FINDINGS

- **Hyperechoic hepatomegaly -** This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.
- **Scalloped spleen –** can be associated with benign or malignant infiltrative disease. Common causes include a reactive spleen secondary to immune stimulus or early infiltrative round cell neoplasia such as lymphoma or mast cell tumor.
- **Hypo to anechoic splenic nodule** – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.
- **Thick proximal duodenum with layering intact but evidence of inflammation and lymphadenopathy surrounding the area** – Differentials include edema or inflammatory change, possibly secondary to pancreatitis, versus infiltrative neoplasia such as lymphoma, especially given the concurrent organomegaly and lymphadenopathy.
- Acute pancreatitis

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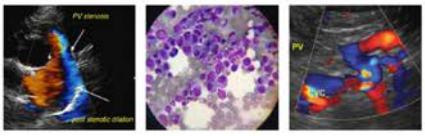

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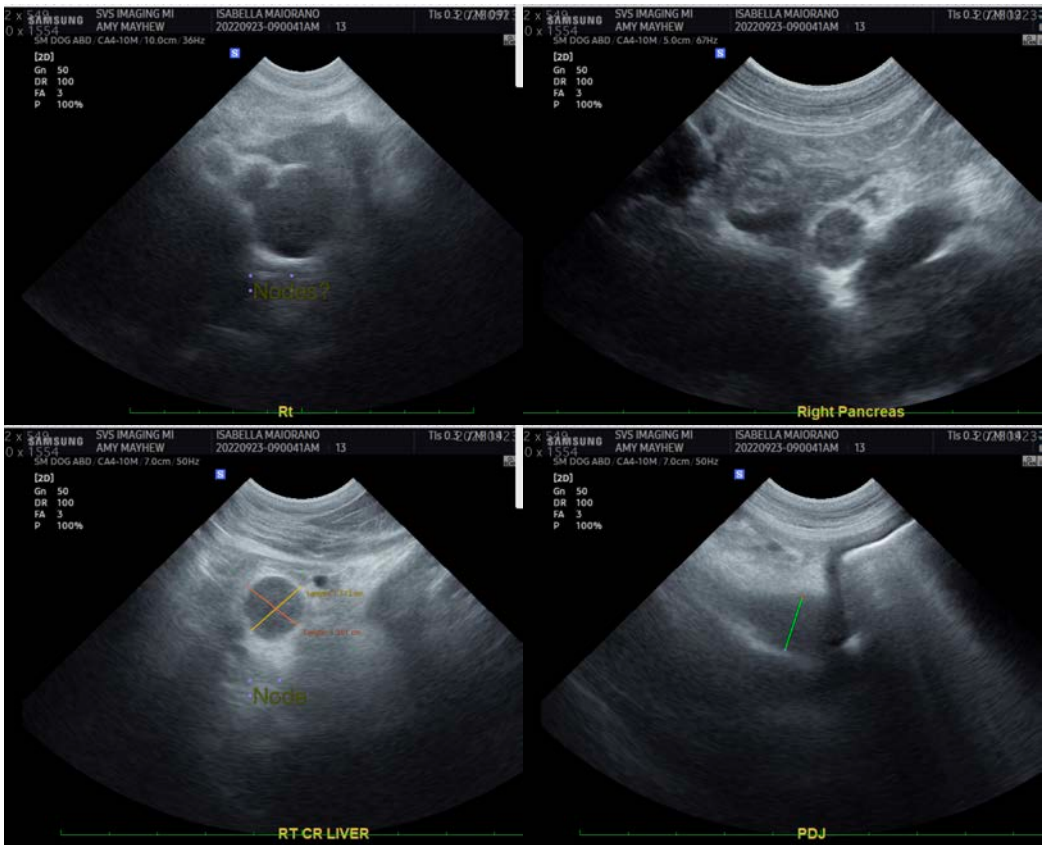
SECONDARY FINDINGS

- **Gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs 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.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A fine needle aspirate of the liver and spleen +/- the enlarged cranial abdominal lymph nodes, if possible, to reach, could be considered if patient's coagulation status is appropriate. If a cytologic diagnosis is not obtained, biopsies of the duodenum either endoscopically or surgically could be obtained. However, given the pancreatitis, an alternative less aggressive approach would be medical management of the pancreatitis with antiemetics, gastroprotectants, appetite stimulants if needed, pain management, broad-spectrum antibiotics, etc. with monitoring of the duodenum for improvement/resolution after the pancreatitis has resolved.



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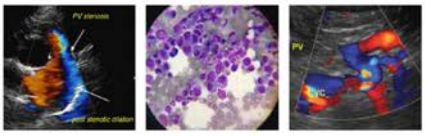

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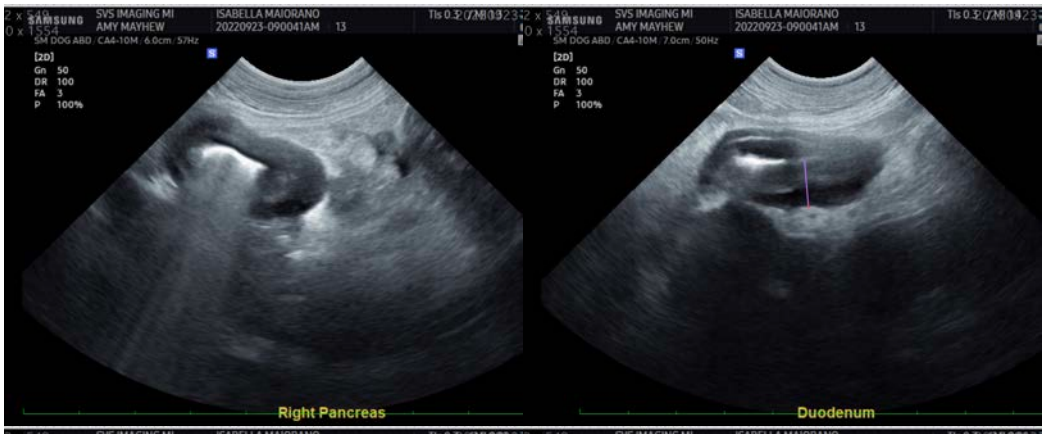

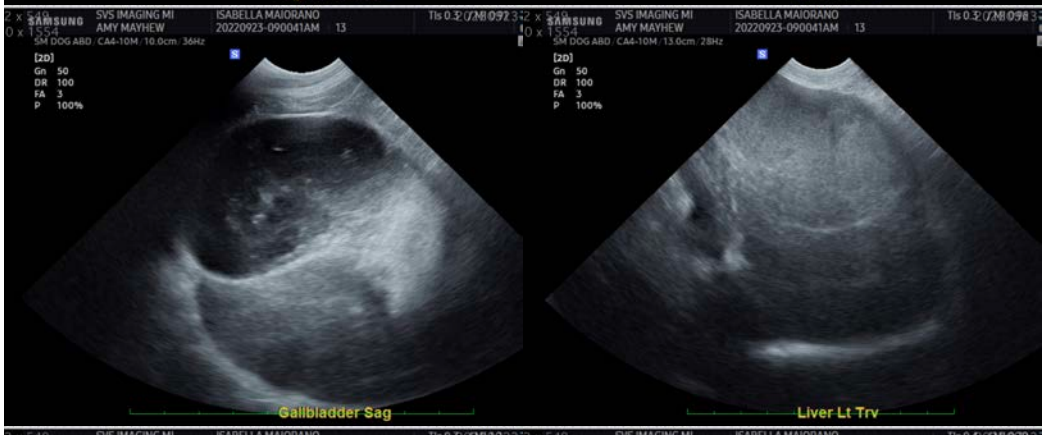

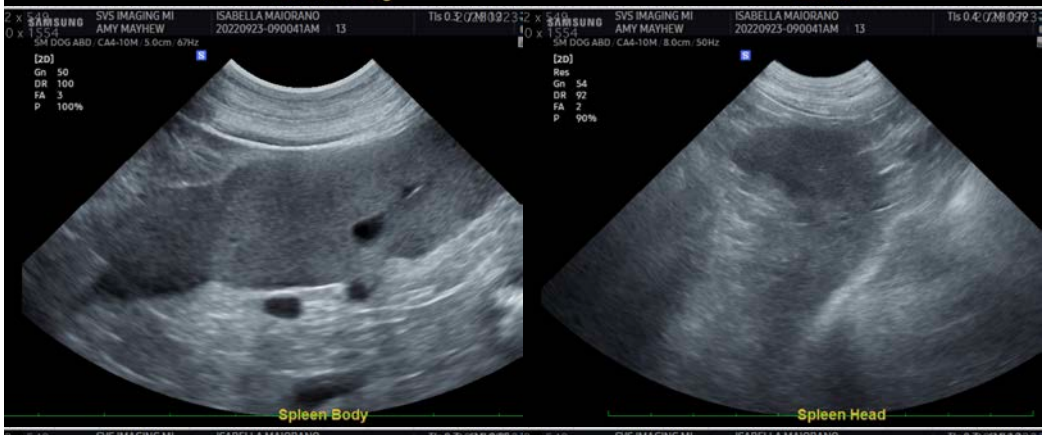

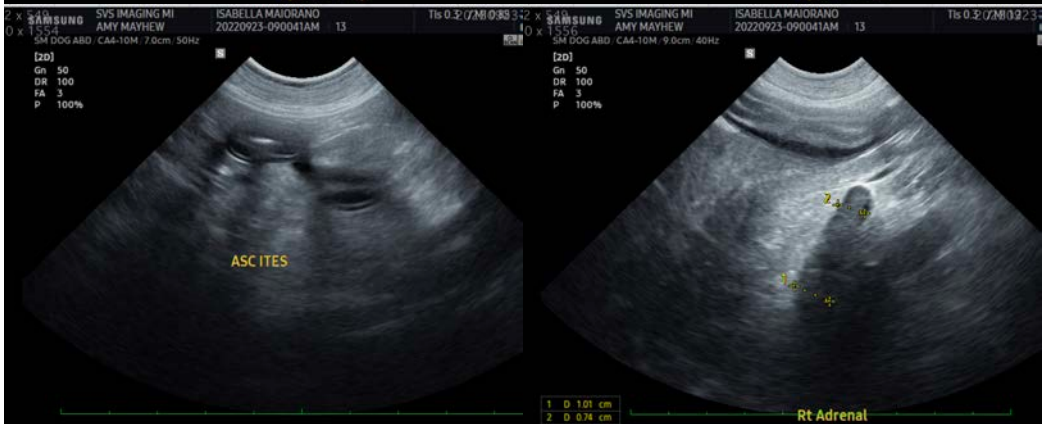

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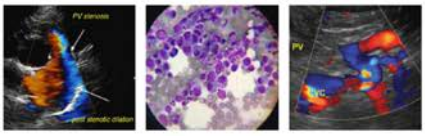

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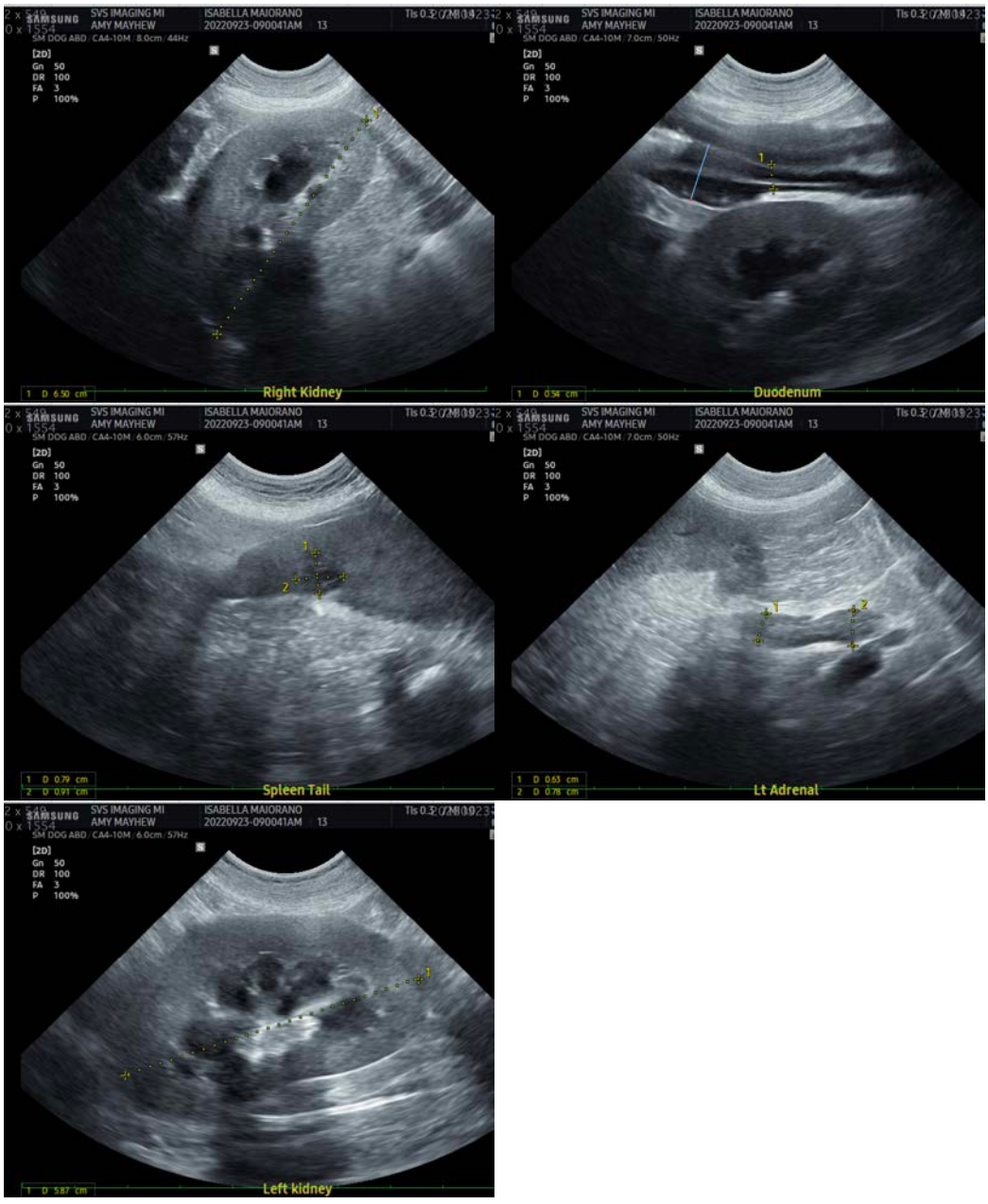

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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