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Clinical Sonography & Telecytology
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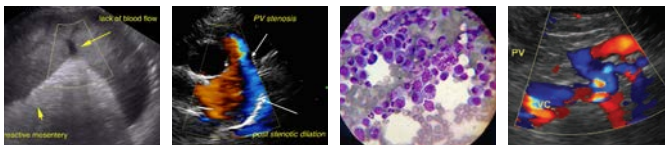

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1-800-838-4268 info@sonopath.com

PATIENT
Koda Raffaele

SPECIES
Canine

BREED
Bernese Mtn Dog

SEX
Male

AGE
6 Years

WEIGHT
101 Pounds

INTERPRETED BY
Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY
Val Shumskaya

HOSPITAL NAME
Newton Vet Hospital

REFERRING VET
Dr. Kim

INVOICE
46104

DATE
3/23/23

PRESENTING CLINICAL SIGNS

3 d post op GDV Sx. Normal bw on admit ALT now 705, panting, fever 3/22 Current meds: IVF, IV Unasyn, Trazodone

Abnormal PE/Chem/CBC/UA Results: ALT 705, ALP 150, K+ 3.6

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The area of the prostate is examined without evident pathology. What is visible appears normal for an intact dog.

The right kidney is normal in size (8.1 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 (7.36 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 unable to be well visualized in these images.

The left adrenal gland is normal in size (2.04 cm long x 0.76 cm at the cranial pole and 0.39 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 a mildly swollen but smooth capsule. Parenchyma is normal and homogenous in echogenicity and echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

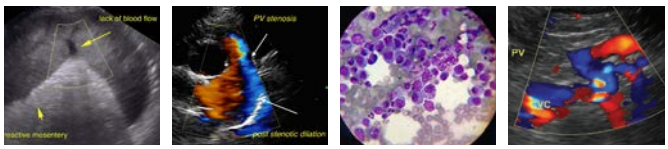
Liver

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.

Gallbladder is moderately distended with anechoic bile as well as mild 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.



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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). 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 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 apparent lymphadenopathy noted in these images.

In the cranioventral abdomen adjacent to the liver, there is a walled off pocket of fluid that measures 2.0 cm x 2.7 cm in size and is surrounded by enhanced hyperechoic mesenteric fat. Additionally, the area surrounding the stomach and caudal liver is markedly hyperechoic/enhanced.

Both testicles are visualized without evident testicular pathology.

PRIMARY FINDINGS

- Fluid pocket in the cranioventral abdomen – This may be a resolving normal post-op finding or a seroma. However, given this patient's reported pain, fever, etc., an abscess can't be ruled out. Similarly, the marked cranial abdominal inflammation may be in part normal post-op change. However, secondary to the fluid pocket described above or potentially an acute hepatopathy, etc. is also considered probable, given this patient's history. There is no free fluid noted.

- **Hypersplenism –** can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.

SECONDARY FINDINGS

- **Mild 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

An obvious cause for the reported increased liver enzymes is not identified in these images. Microscopic disease such as Leptospirosis, bacterial cholangiohepatitis, chronic active hepatitis, copper-associated hepatotoxicity, other hepatotoxicity, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out. If any perioperative or post-operative medications were included in this patient's surgery that can be associated with idiosyncratic hepatotoxicities, discontinuing and providing supportive care may be all that is indicated. Otherwise, additional diagnostics could include fine needle aspirate of the liver is patient's coagulation status is appropriate, as well as fine needle aspirate of the fluid pocket caudal to the liver for both cytology as well as culture and sensitivity.

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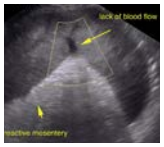
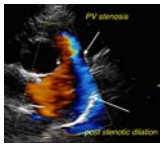
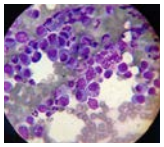
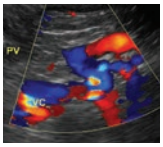

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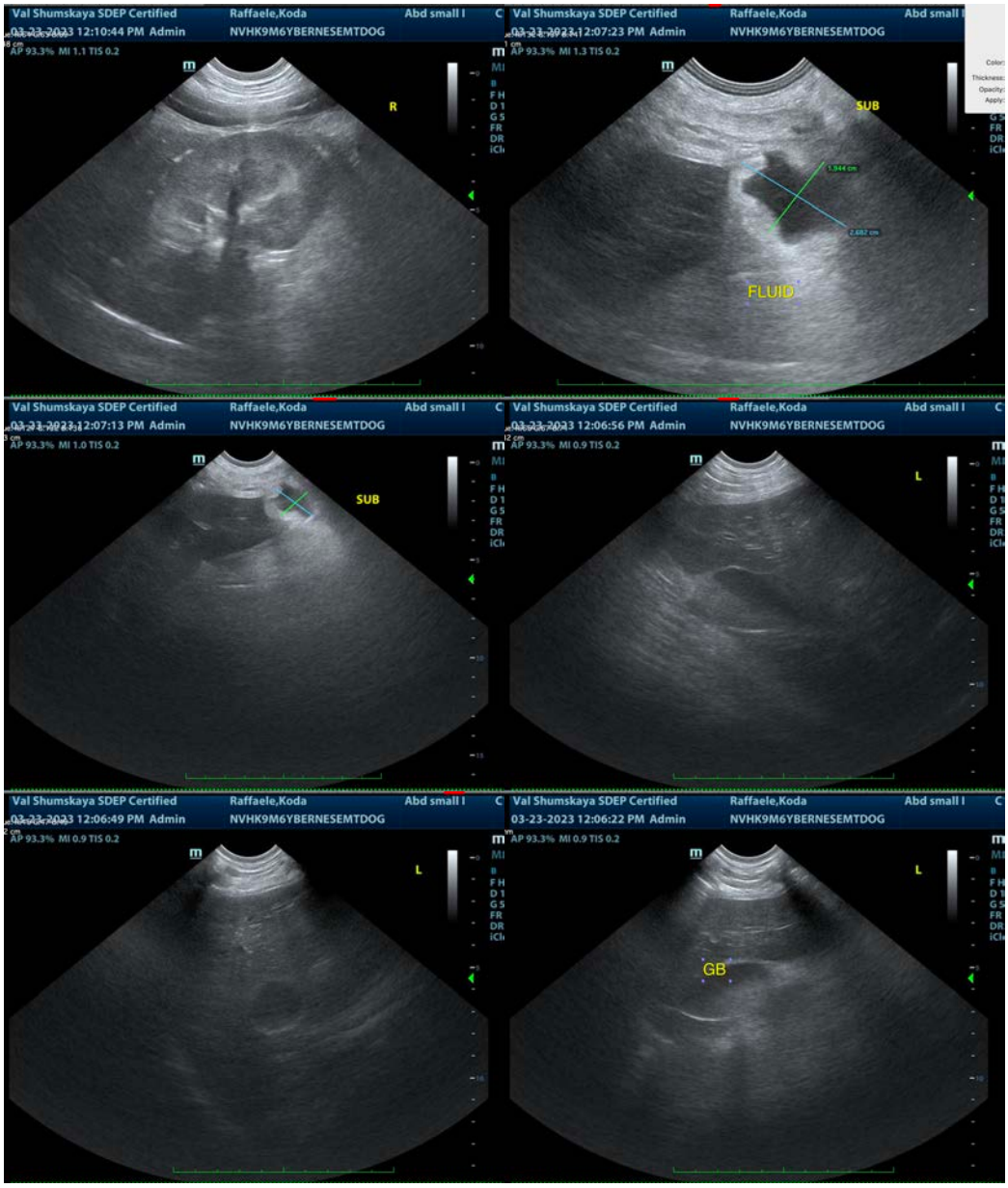
In the meantime, treatment recommendations include fluid therapy, anti-emetics, gastroprotectants, hepatic nutraceuticals such as ursodiol and/or Denamarin, and broad spectrum antibiotics.



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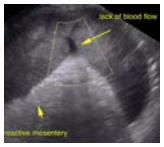
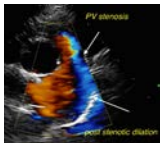
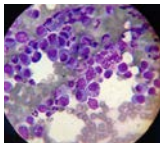
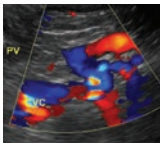

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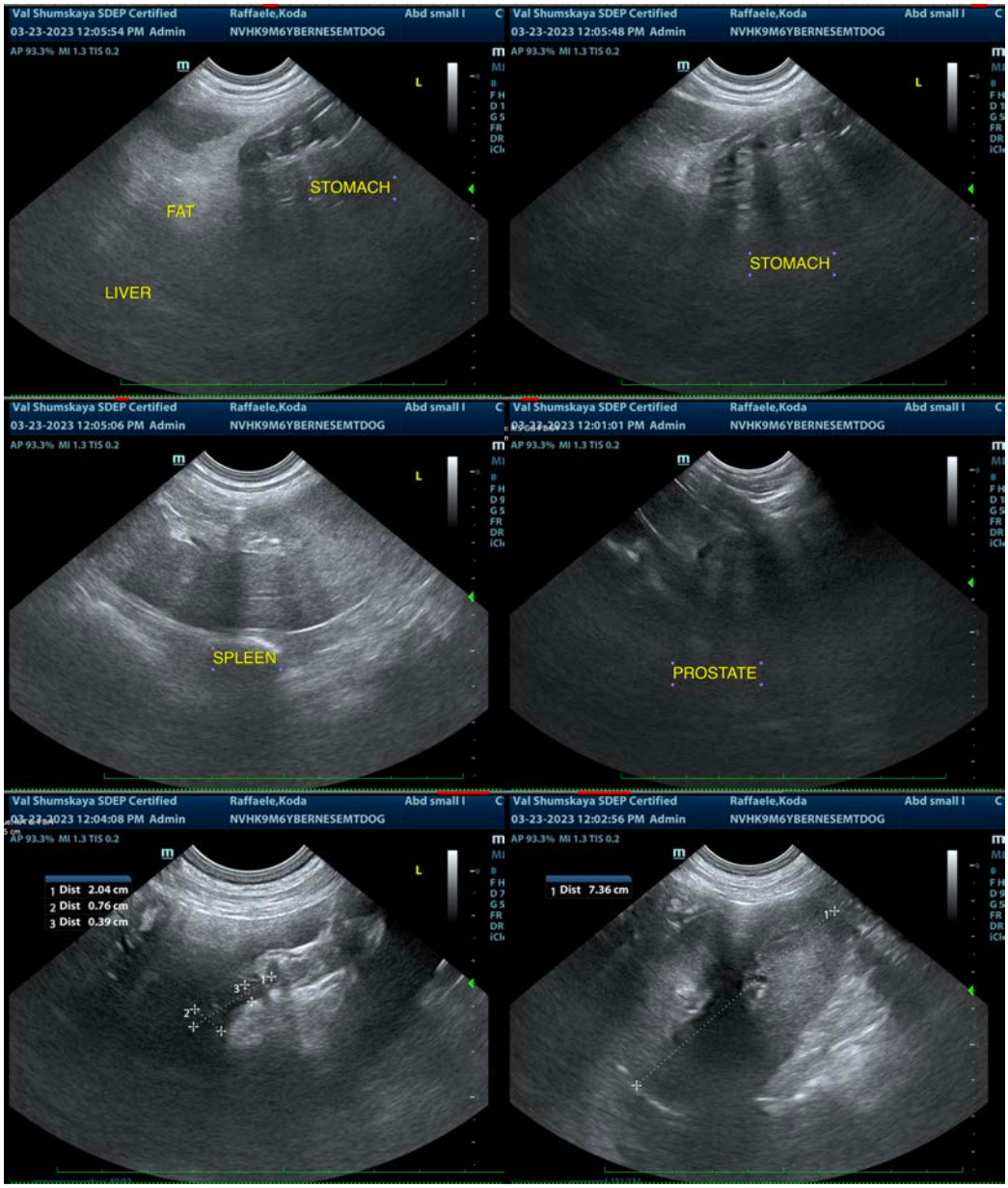

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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