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Clinical Sonography & Telecytology
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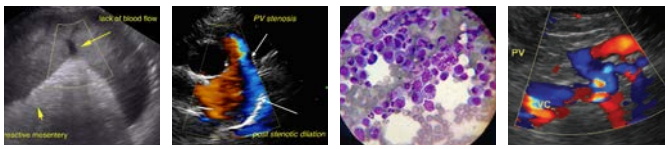

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Bob Haley

SPECIES

Canine

BREED

French Bulldog

SEX

Neutered Male

AGE

7 Years

WEIGHT

16.42 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Alyssa Carver

HOSPITAL NAME

Animal Emergency Hospital Volusia

REFERRING VET

Dr. Alyssa Carver

INVOICE

46087

DATE

3/23/23

PRESENTING CLINICAL SIGNS

Patient presented for lethargy, anorexia, V+ intermittently, weight gain. PE revealed severely distended abdomen. PE revealed severely distended abdomen.

Abnormal PE/Chem/CBC/UA Results: No heart murmur ausculted on PE AFAST revealed severe peritoneal effusion. Abdominocentesis performed - fluid is red/pink, watery. Fluid analysis: PCV<1%, TS: 4.0. Cytology of fluid revealed moderate transudate, TNCC 700K. No infectious agents observed. Rare lymphocytes noted. 4DX: negative ALT: mild elevated 161 TS: 5.4 (5.5-7.6) Globulins: 2.1 (2.0-3.6) Albumin normal @ 3.3 Radiology report: The study includes 6 projections to include the thorax and abdomen dated March 22, 2023. Thorax: There is an 8 mm nodular opacity superimposed over the cardiac silhouette seen on the left lateral image. The cardiovascular structures are within normal limits. There are no abnormalities of the pleural space. Abdomen: There is a marked decrease in serosal margin detail within the peritoneal space. The liver is enlarged. The stomach contains a small amount of gas. The visible small intestines are within normal limits for size and are distributed normally throughout the peritoneal space. A mild-to-moderate amount of fecal material is seen throughout the colon. Musculoskeletal: There are multiple vertebral anomalies of the thoracic and coccygeal spine, common for the breed. Conclusion 1. Severe peritoneal effusion. A cause is undetermined. 2. Hepatomegaly. This is nonspecific. 3. Possible pulmonary nodule. Recommendations A minimal data base including a blood chemistry profile, complete blood cell count, and urinalysis (with specific gravity) could be considered if this has not already been performed to evaluate for systemic/metabolic abnormalities. An abdominal ultrasound with abdominocentesis could be considered for further evaluation. Read By: Daniel VanderHart, DVM, Diplomate ACVR

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 prostate is unable to be well visualized in these images.

The right kidney is normal in size (6.6 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 (7.8 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 (0.90 cm at the cranial pole and 0.90 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is unable to be well visualized in these images,

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.

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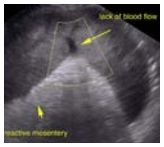
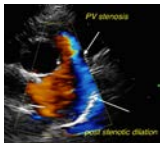
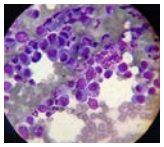
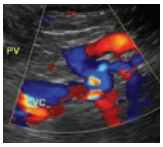

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Liver

Liver is normal to slightly enlarged in size with slightly undulating or scalloped capsular contour or margins. Parenchyma is diffusely heterogenous with increased portal markings and coarse architecture. No focal nodules or masses 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.

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 a large amount of anechoic free fluid.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- Heterogeneous liver with patchy areas of potential fibrosis – This can be seen with benign processes such as nodular hyperplasia, steroid or vacuolar hepatopathy, extramedullary hematopoiesis, but is suggestive of (if not a current active) at least a chronic or potentially resolved past inflammatory episode or disease. Infiltrative neoplasia including round cell neoplasia or even metastatic neoplasia are also differentials.

- **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.

- Large amount of anechoic free fluid is present.

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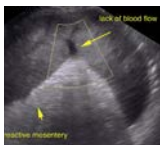
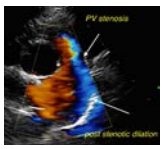
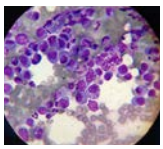
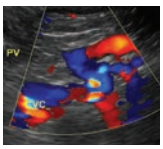

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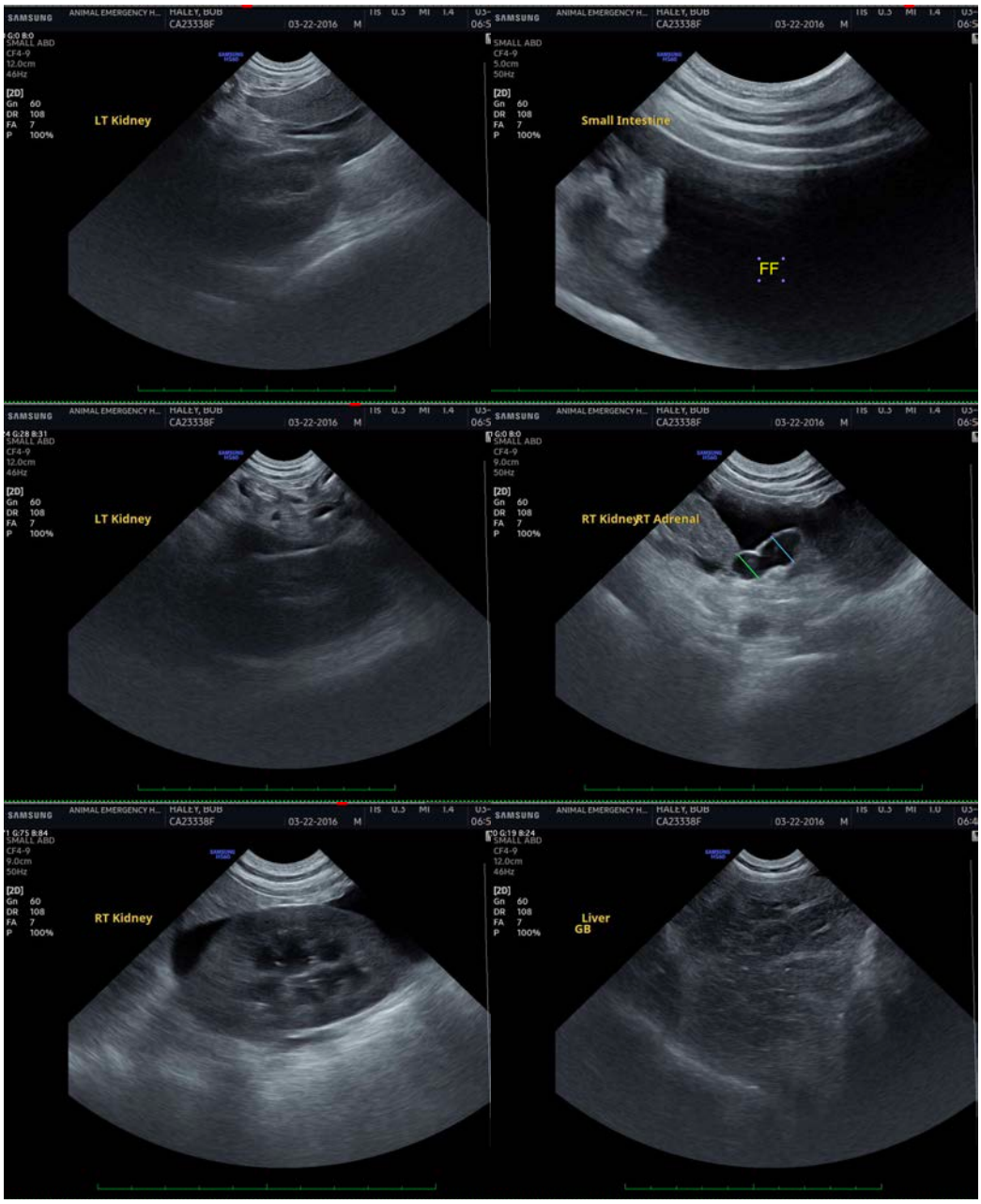
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, an obvious cause for the peritoneal fluid is not definitively visible. It could be secondary to chronic hepatopathy, early portal hypertension, etc., however typically the liver is smaller with this change. Having said that, it can't be ruled out, and further evaluation of the liver is recommended in the form of bile acids if total bilirubin is normal, as well as a fine needle aspirate of the liver if patient's coagulation status is appropriate. Given the reported pulmonary nodule in this patient, however, other differentials include a paraneoplastic effusion, and next diagnostic steps could include thoracic and abdominal contrast CT scan. Prior to anesthesia, an echocardiogram is warranted.



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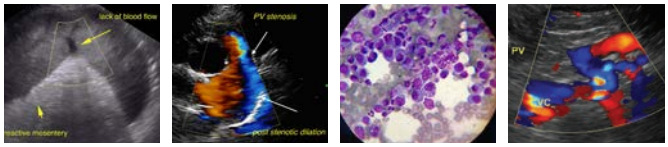

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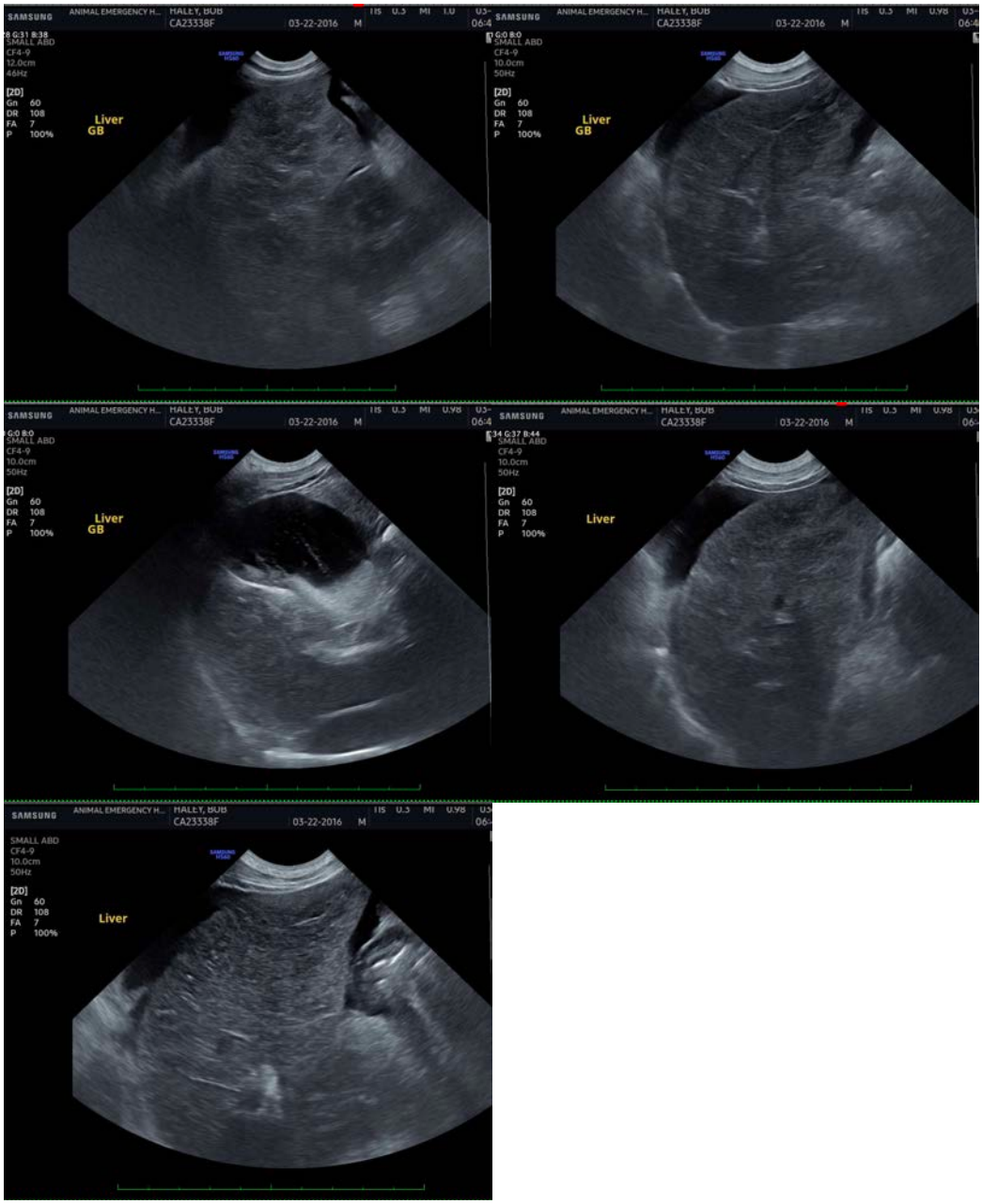

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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