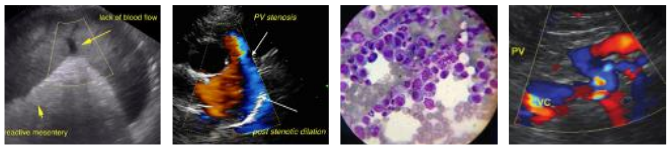
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Chloe Stamer

SPECIES

Canine

BREED

Jack Russell

SEX

Spayed Female

AGE

13 Years

WEIGHT

9 kg

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Hayley Heindel, CVT

HOSPITAL NAME

Mason Dixon AEH

REFERRING VET

Dr. Hengst

INVOICE

21723

DATE

3/21/23

PRESENTING CLINICAL SIGNS

History: decreased appetite, vomiting, dull mentation

Abnormal PE/Chem/CBC/UA Results: ALT 1704 ALP 9706 urinalysis- cocci, granular/waxy casts BUN 60 Creat 2 Chol >450 GGT 315 Lymph 0.56

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 occasional echogenic non-shadowing debris, most consistent 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.

Kidneys are bilaterally uniformly enlarged/swollen with an overall hyperechoic echogenicity and slight loss of corticomedullary definition. Normal smooth peripheral margination and shape are maintained. The renal pelvises are dilated with anechoic fluid and hyperechoic thickened pelvic fat. No overt evidence of neoplasia or mineral is observed. The perinephric area is enhanced by hyperechoic fat and mesentery. The left kidney measures 5.59 cm. The right kidney measures 5.7 cm.

Adrenal Glands

Left adrenal gland is normal in size (1.69 cm long x 0.54 cm at cranial pole and 0.63 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is unable to be well visualized in these images.

Spleen

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.

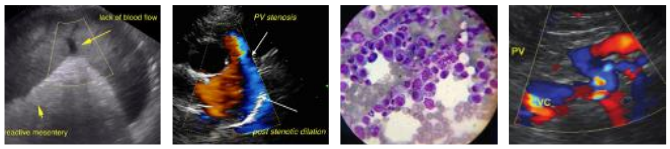
Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion. A 0.8 cm x 0.9 cm anechoic cystic lesion is noted in the caudal left liver.

Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion. There is enhanced hyperechoic mesenteric fat surrounding the neck of the gallbladder.

Gastrointestinal

The visible stomach wall is normal in thickness 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. 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 and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Emerging mucocele – 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. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.

- Heterogenous Liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.

- Pyelonephritis – These changes are most consistent with chronic pyelonephritis. Chronic scarring and fibrosis and/or chronic nephrolith passage can also result in these pelvic dilation changes. Early infiltrative disease cannot be ruled out but is considered less likely.

Secondary Findings

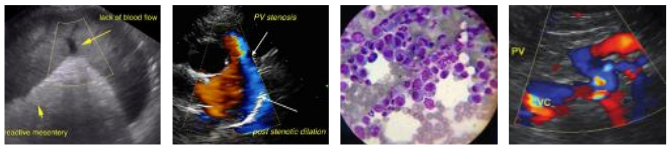
- Urinary bladder debris

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This patient's clinical signs may in part, or solely, be related or caused by the emerging gallbladder mucocele, however, given the concurrent azotemia and marked ALT increases, other concurrent metabolic, infectious, or even infiltrative neoplastic diseases affecting the liver +/- the kidneys are suspected, and therefore, further evaluation of other differentials is recommended, beginning with, to rule out pre- vs renal azotemia, urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

Testing for Leptospirosis is recommended, especially if the azotemia is renal.

Given the concurrently dull mentation, bile acids, as well as a fine needle aspirate of the liver, if patients coagulation status is appropriate, could be considered.



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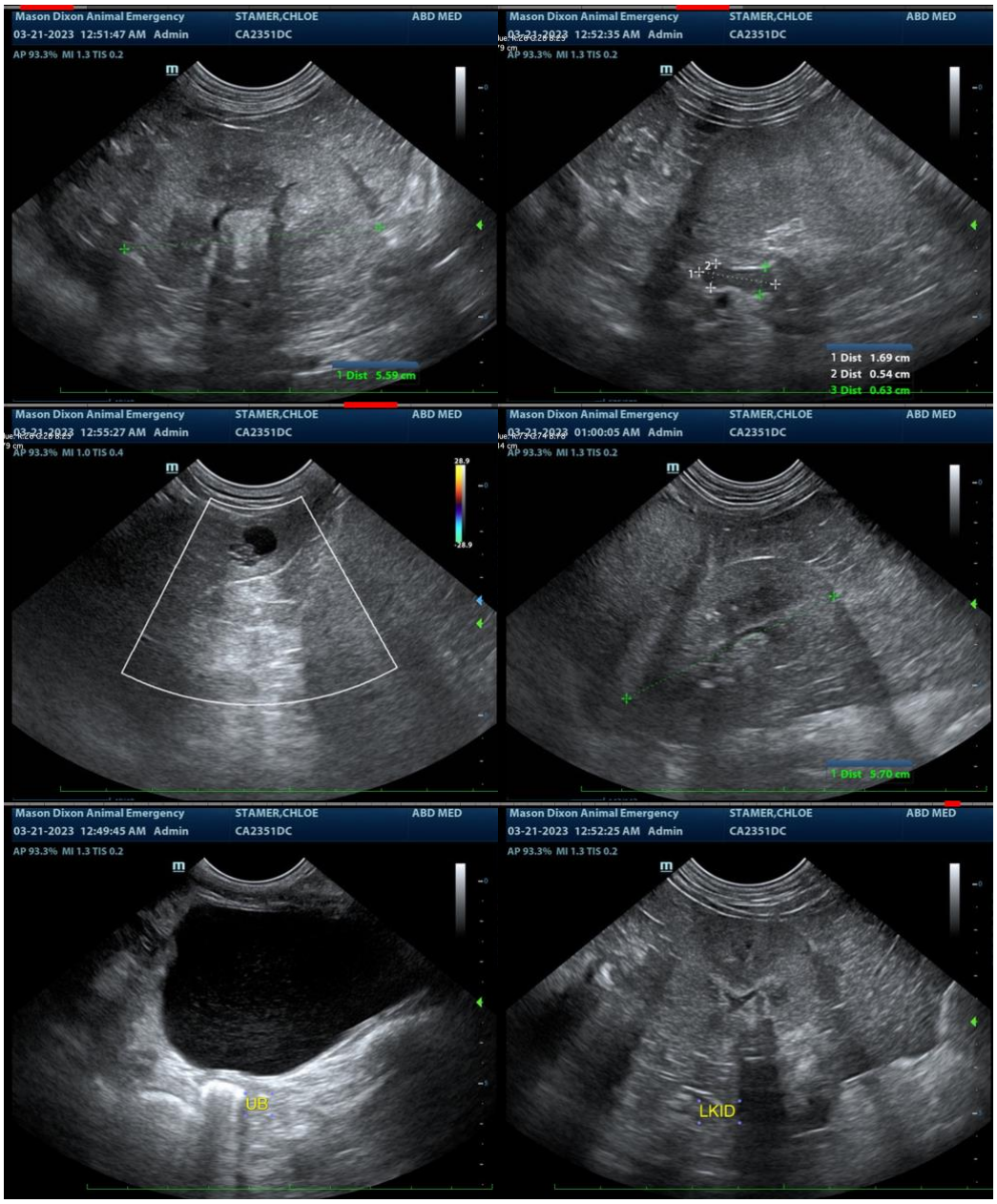
In the meantime, supportive/symptomatic medical management of clinical signs, etc., is recommended with antiemetics, gastroprotectants, an appetite stimulants, broad spectrum antibiotics, fluid therapy, as well as hepatic nutraceuticals, including Ursodiol.

If a different diagnosis is not made, and clinical signs persist, especially vomiting or cranial abdominal pain and/or liver enzymes continue to increase, etc., more aggressive intervention of the gallbladder disease may be necessary, up to and including surgery for a cholecystectomy. If that option is pursued, a liver biopsy should be obtained at the same time.



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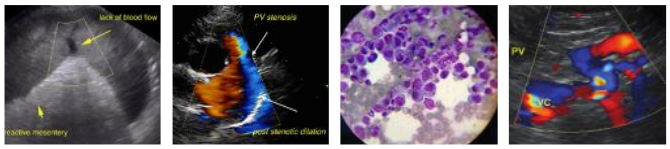

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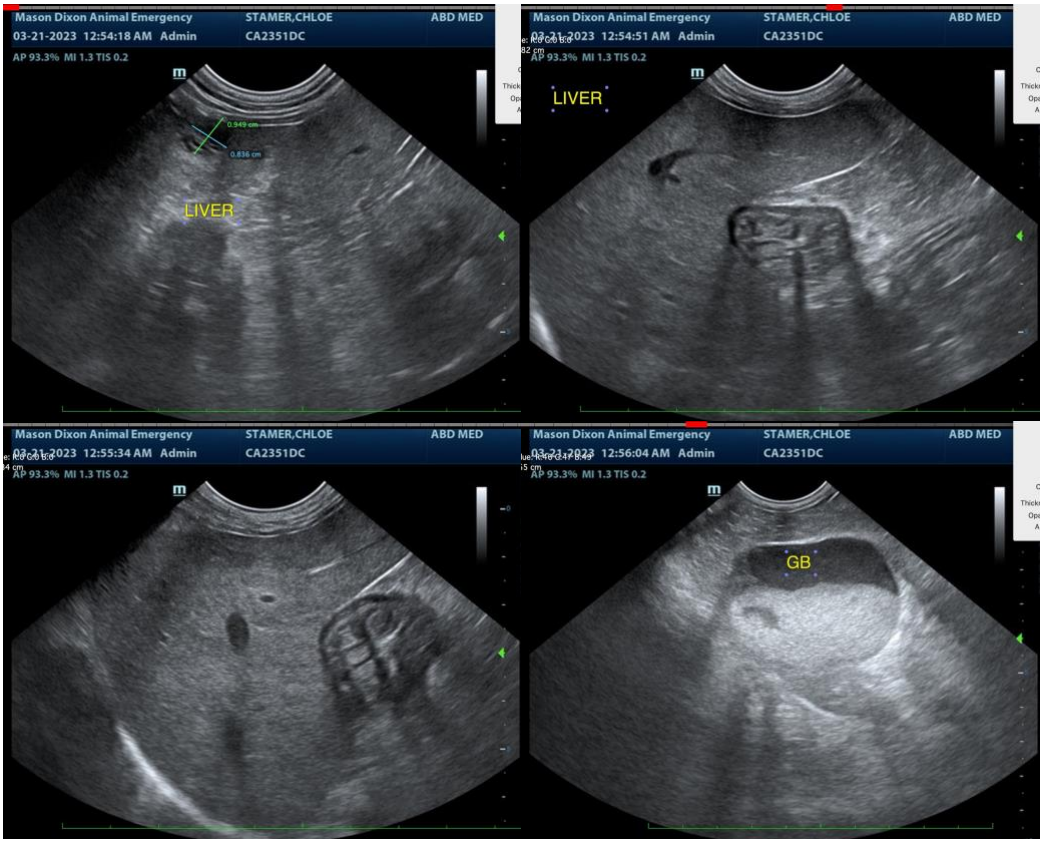

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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