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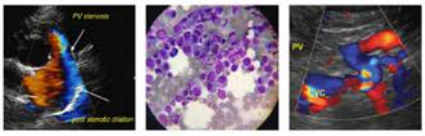

SonoPath
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PATIENT

Dexter Malus

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

Neutered Male

AGE

11 Years

WEIGHT

16.8 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

REFERRING VET

Dr. Craig

INVOICE

43459

DATE

6/27/23

PRESENTING CLINICAL SIGNS

Recheck AUS 1 month after hospitalization for the following Dx: Acute cholecystitis, cholangiohepatitis Elevated liver enzymes and total bilirubin Vomiting, anorexia, fever Abnormal cPL – r/o secondary to cholangiohepatitis versus pancreatitis P currently doing well, v/d resolved, good appetite

Abnormal PE/Chem/CBC/UA Results: Severe dental disease on PE, otherwise unremarkable exam as of 6/6/23 Recheck liver panel - ALT 131, ALP 538 on recheck liver panel 6/6/23 The stomach is mildly gas-filled, normal in position. A slight loss of serosal detail is present in the cranial abdomen. The small intestine is mildly diffusely fluid filled, uniform in population. The descending colon contains a mild amount of poorly defined fecal material mixed with moderate gas. The visible hepatic silhouette margins are normal. The renal silhouettes are normal in size and margin. The urinary bladder is mildly filled and normal in position. Radiographic Interpretation 1.The appearance of the gastrointestinal structures is subtle though supportive of gastroenteritis and possible functional ileus. There is no evidence of a mechanical obstruction. 2. Slight cranial abdominal steatitis and/or scant peritoneal free fluid. Given the provided history, further evaluation of the cranial abdomen is warranted to evaluate the hepatobiliary tract with consideration for abdominocentesis and fluid cytology if feasible. Abdominal US findings: The hepatobiliary tract is within normal limits. Given the provided history, an acute cholecystitis and cholangiohepatitis is considered possible. No biliary tract obstruction is identified. Consideration could be given to cholecystocentesis with cytology and culture prior to empiric therapy with potential for liver biopsy and culture. **Please see attached labs and previous AUS report in link.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (0.39 cm thick). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

The right kidney is normal in size (4.09 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 (4.28 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 (0.48 cm at the cranial pole and 0.45 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 (0.49 cm at the cranial pole and 0.62 cm at the caudal pole), 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.

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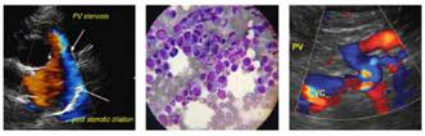

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Liver

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.

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 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.

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 evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- **Mildly 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.
- **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.
- **Chronic Cystitis -** Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.

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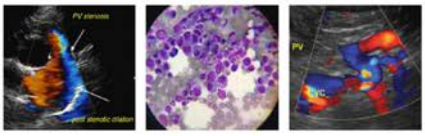

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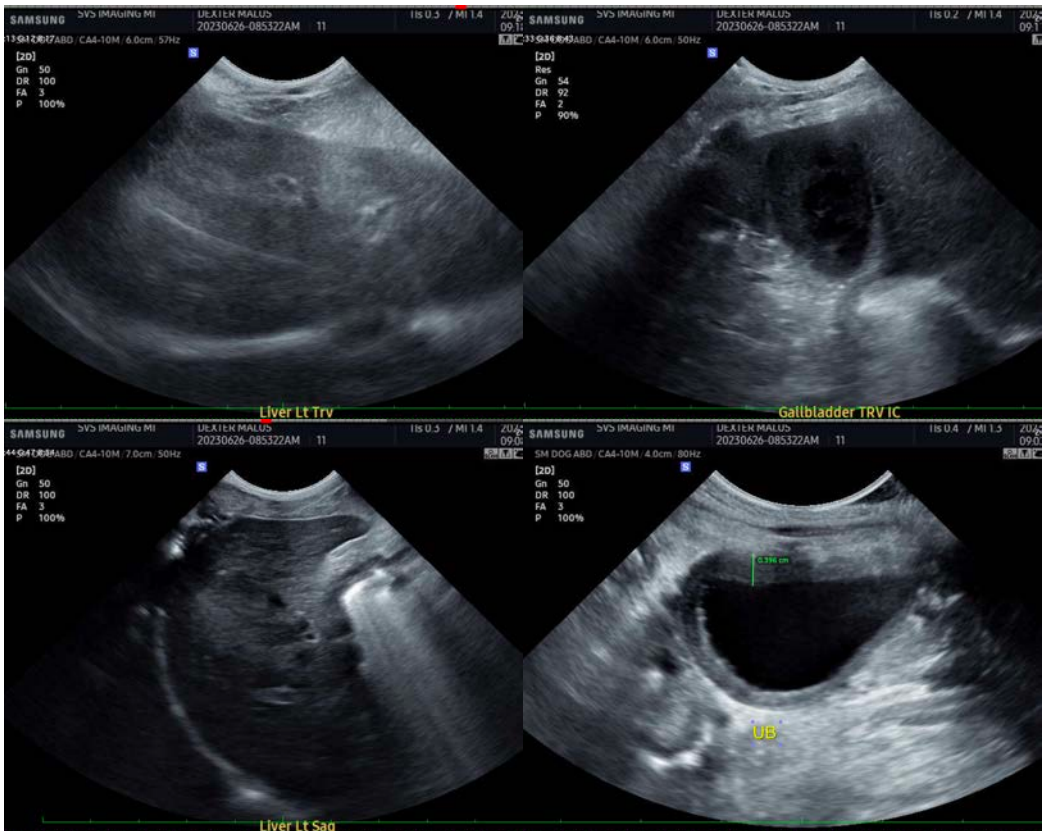
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patients reported persistently mildly increased liver enzyme following a bout of suspected medically managed cholangiohepatitis, a fine needle aspirate of the liver could be considered if patient's coagulation status is appropriate.

Additionally, cholecentesis for culture and sensitivity of the bile could be considered.

If not recently evaluated, and given the patient breed, a fasted triglyceride level is recommended, as idiopathic hypertriglyceridemia can lead to a cholestatic hepatopathy and increased ALP, etc. secondary to that, in which case, if tolerated, a low-fat diet could also be considered.

In the meantime, further medical management decisions should be made based patient's clinical signs, etc.



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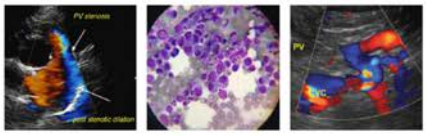

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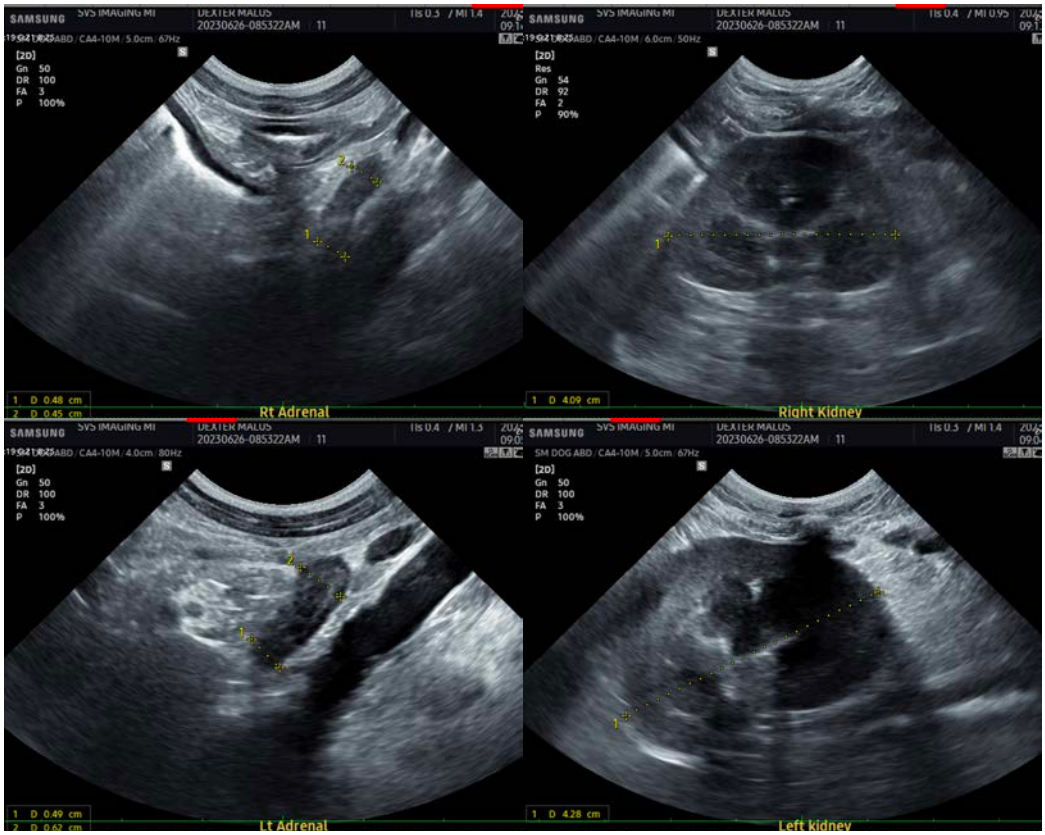

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
info@sonopath.com