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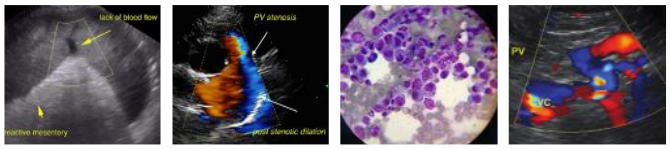

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PATIENT
Molly Brubaker

SPECIES
Canine

BREED
Weimaraner

SEX
FS

AGE
13yr

WEIGHT
28.1kg

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Schwanebeck

HOSPITAL NAME
Animal Emergency Hospital Deland

REFERRING VET
Dr. Schwanebeck

INVOICE
14273ag

DATE
07/06/2023

PRESENTING CLINICAL SIGNS

Presented to clinic for lethargy. Symptoms started today. Patient also vomited today and had increased urination/defecation. Not interested in food or water. Hx cushings and liver enzyme elevations. Owner notes patient has been groaning the past few hours and appears uncomfortable.

Abnormal PE/Chem/CBC/UA Results: PE: QAR, slightly distended abdomen Chem: Cholesterol >450, ALT (too high to read), ALP >993, GGT 21 EPOC: Mild hypokalemia (3.1), hyperlactatemia (4.76) Radiographs: Findings 6 electronically transmitted images including ventrodorsal, left and right lateral radiographs of the thorax and abdomen are provided for review dated July 5, 2023. The caudal ventral margins of the liver are rounded and extend caudal to the costal arch, and the stomach is displaced caudally and dorsally, consistent with moderate hepatomegaly. The stomach and small intestines contain small quantities of gas but otherwise are empty and there is no evidence of plication. The colon, cecum and rectum contain moderate amount of gas and scant partially formed feces. There is increased fat opacity suspicious for intra-abdominal lipoma or less likely atypical accumulation of mesenteric fat and concurrent enlargement of the spleen mass in the caudal abdomen cranial to the bladder ventral to the descending colon causing cranial displacement of the intestines and deviation of the colon dorsally and toward midline. The urinary bladder is small and partially within the pelvic canal consistent with recent urination. The cardiac silhouette and pulmonary vessels are subjectively normal in size and shape. The caudal thoracic portion of the caudal vena cava is subjectively small consistent with borderline mild hypovolemia. There is a large fat opacity subcutaneous mass visible along the right lateral thoracic wall extending from the level of the 4th through the 9th ribs seen on the VD view. Conclusion Mass-effect in the caudal abdomen suspicious for an abdominal lipoma or less likely an atypical soft tissue mass arising from the spleen, mesentery or mesenteric lymph nodes. Diffuse hepatomegaly, consistent with a chronic active diffuse hepatopathy, most likely a vacuolar hepatopathy secondary to Cushing's disease, or less likely a reaction to a previous drug or toxin exposure; and/or inflammatory or infectious cholangiohepatitis; or neoplasia. Empty stomach and small bowel consistent with fasting or anorexia since recent vomiting. Borderline mild hypovolemia. Otherwise normal thoracic structures. Recommendations It would be valuable to perform an abdominal ultrasound exam to better characterize the mass effect in the caudal abdomen between the intestines in the urinary bladder and determine if surgical intervention or ultrasound guided FNA sampling of the tissue is indicated. Review of recent CBC, chemistry profile, fecal parasite testing, and urinalysis results may also be helpful for identifying the cause of the patient's clinical signs or significant concurrent abnormalities, such as possibly detecting or ruling out anemia, thrombocytopenia, or signs of acute renal or acutely more severe hepatic disease such as a gallbladder mucocele or acute infectious or toxic hepatopathy concurrent with liver changes secondary to previous Cushing's syndrome. Read By: Justin M. Goggin, DVM, DACVR (Diagnostic Radiology)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

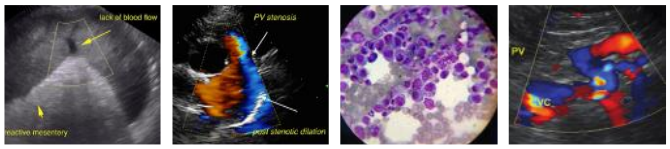
Urinary System

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.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The left kidney measured 7.95 cm; the right kidney measured 8.05 cm.

Adrenal Glands

The bilateral adrenal glands were unable to be fully evaluated in these images.



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Spleen

See other.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is markedly heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Additionally multifocal discreet hyperechoic homogenous nodules are noted throughout the 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 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

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/Other

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

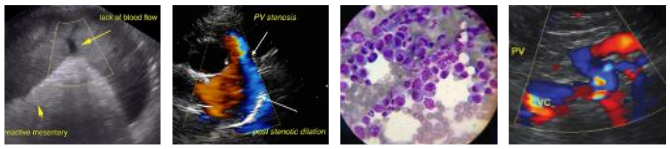
In what appears to the be the caudal abdomen there is a 6+ cm x 8+ cm homogenous iso to slightly hyperechoic mass that can't be traced to origin in these images and cannot be definitively ruled out as spleen or as attached to spleen.

ULTRASONOGRAPHIC FINDINGS

- Markedly heterogenous liver-can be seen with benign processes such as nodular hyperplasia, vacuolar hepatopathy, hematopoiesis etc. However, given the severity of the changes noted in this patient's liver, chronic inflammatory disease or infiltrative round cell or metastatic neoplasia are considered more likely and should be further investigated.
- The mass described above appears consistent with the caudal abdominal lipoma suspected radiographically however the location of the probe looking at the mass is not labeled and in some of the videos of what I presume to still be the mass, I cannot be certain that I am not seeing spleen.

Secondary

- Mild gallbladder debris (canine) - 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



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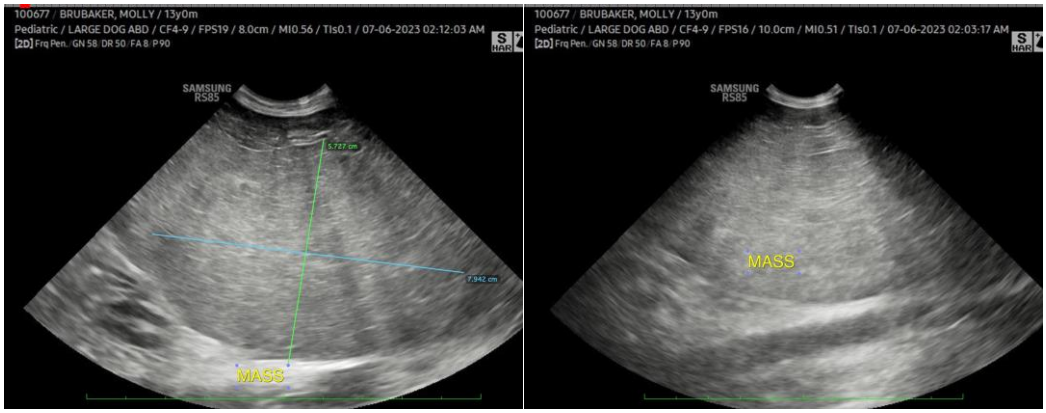
hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

- Age related kidney changes.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

1. Given this patient's reported lab changes testing for Leptospirosis is recommended. Bile acids are recommended, if TBIL is not increased. An empirical course of antibiotics and hepatic nutraceuticals may be tried empirically; however, ultimately, tissue sampling is likely warranted. FNA of the liver can be performed to assess inflammatory cell type, rule in/out round cell neoplasia, etc. If round cell neoplasia is not diagnosed, a liver biopsy (including copper level assessment) may be required to definitively diagnose the underlying hepatopathy.
2. Additionally, a FNA of the caudal abdominal mass suspect intra-abdominal lipoma is recommended if coagulation status is appropriate. In the meantime, supportive/symptomatic medical management of clinical signs is recommended in the form of fluid therapy, anti-emetics, gastroprotectants etc. as well as broad spectrum antibiotics and hepatosupportive medications etc. if tolerated.



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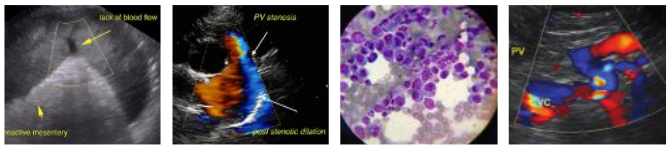

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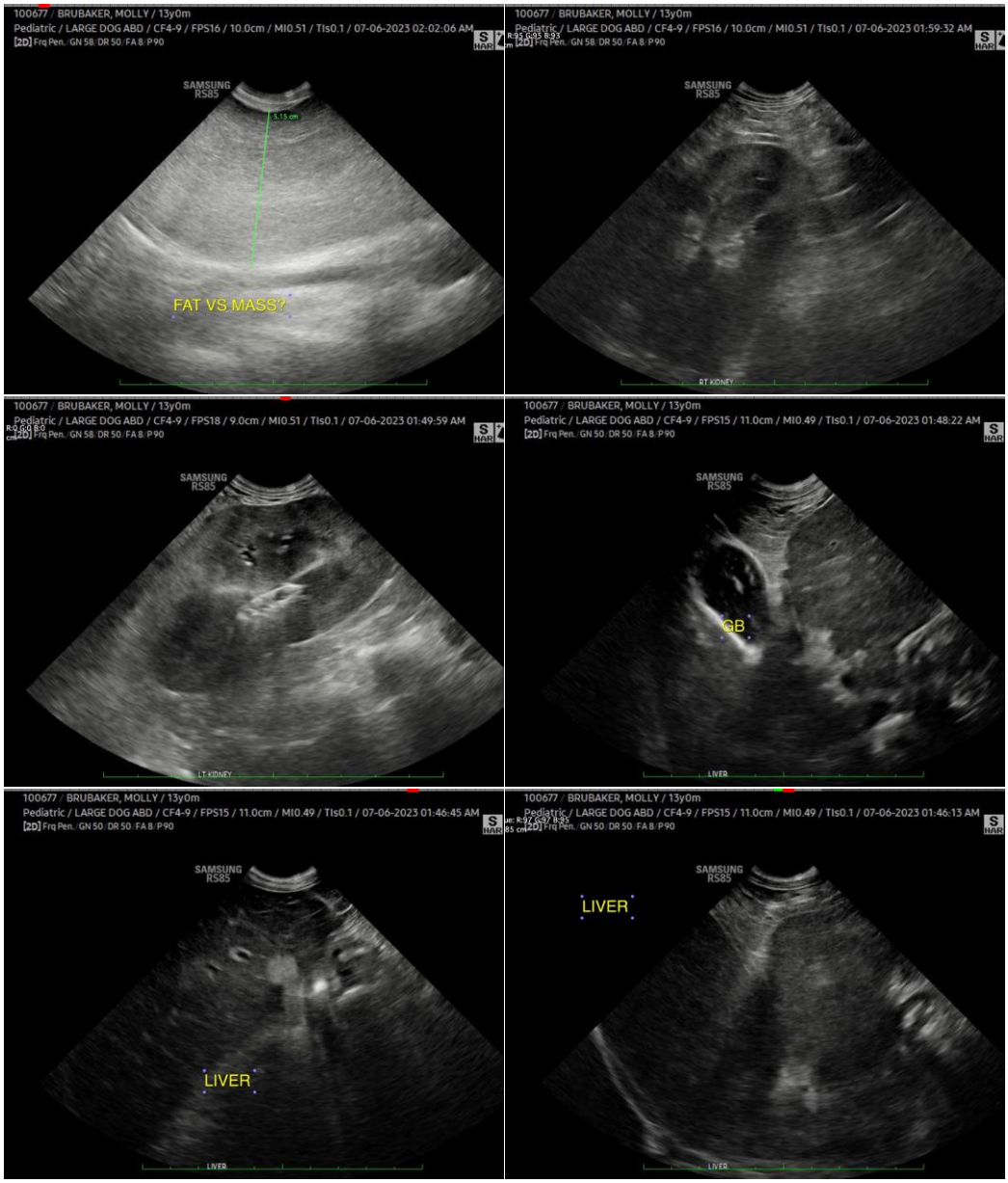

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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