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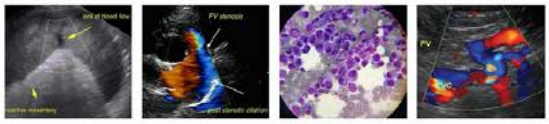

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Dudley Cornelius

SPECIES

Canine

BREED

Rat Terrier

SEX

Neutered Male

AGE

16 Years

WEIGHT

24.8 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Loetitia Saint-Jacques, RVT

HOSPITAL NAME

MountainView AH

REFERRING VET

Dr. Sarah Kalivoda

INVOICE

24681

DATE

8/13/21

PRESENTING CLINICAL SIGNS

Chief Concern / Provisional Diagnosis: ~concern for poss liver mass (fast scan at time cystocentesis shows abnormalities) ~ Relevant Medical History and Physical Exam findings: ~chronic cushings, not regulated. recent foreleg lameness~ Recent Diagnostics: Relevant Labratory Results / Abnormalities: ~BW pending~ Current medications (include full name, dosage and frequency): ~gabapentin 5-10mg/kg BID PRN for pain~

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is normal in size (0.86 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (4.2 cm). Overall echogenicity is slightly hyperechoic with mildly decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. Mild pyelectasia noted at 0.16 cm. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.78 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 1.46 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is large in size measuring 2.24 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature appears normal. There are numerous ill-defined, hyperechoic nodules within the hepatic parenchyma, varying in size from 0.5-2.0 cm. There is a 0.81 cm small hepatic cyst, and additionally there is a very large, mixed echogenic but somewhat hyperechoic mass effect measuring >6.9 cm, originating from the hepatic parenchyma.

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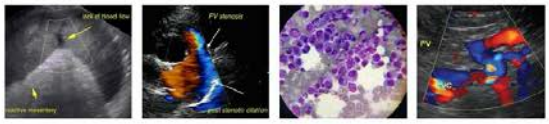

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The gallbladder is large and distended with a large amount of primarily mobile, hyperechoic debris. The wall appears somewhat thickened, and towards the neck of the gallbladder, there is a 2.0 cm round, hypoechoic focal mass effect on the wall. Additionally, there is a 1.15 cm stone visible in the neck of the gallbadder/proximal bile duct, and the bile duct is dilated distally, measuring 0.3 cm. There is no evidence of surrounding free fluid or inflammation.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Duodenum wall measures 0.48 cm. Jejunum wall measures 0.35 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

Other

A brief view of the heart was submitted. No pericardial effusion was seen.

PRIMARY FINDINGS

- Large, heterogeneous, nodular liver with large hepatic mass – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The focal mass effect is concerning for a neoplastic process, although an adenoma or large regenerative nodule is possible.
- Large volume gallbladder sludge with focal mass effect within the gallbladder as well as a stone – findings are consistent with cholecystitis and possible partial obstruction. The mass effect could be a large polyp or could represent a neoplastic process.
- Severe bilateral adrenal enlargement – differentials include PDH, infiltrative neoplasia, bilateral adrenal masses, hypertrophy post Trilostane treatment, etc.

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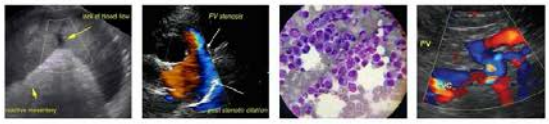

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SECONDARY FINDINGS

- Subjectively thickened small intestine with intact wall layering – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease).
- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.

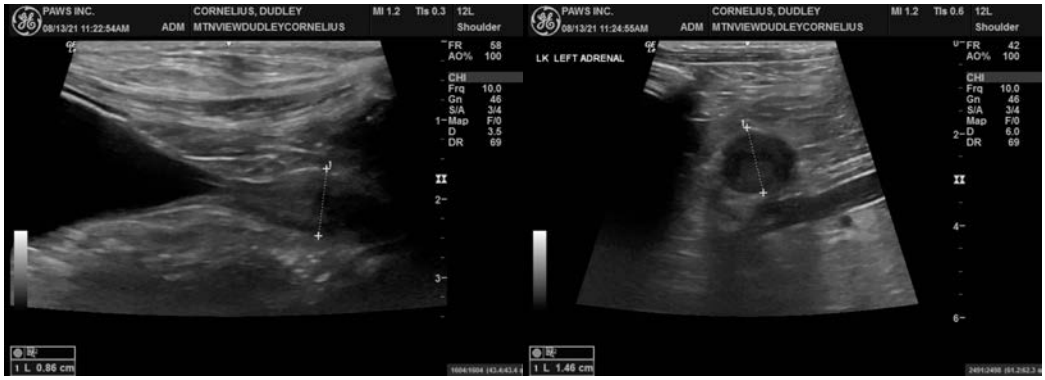
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a lot going on with this dog's liver. The parenchymal changes could be consistent with benign regenerative nodules as can be seen with Cushing's disease, etc. A biopsy or fine needle aspirate could help differentiate. Additionally, there is a large hepatic mass. Some of these can be slow growing and relatively non-aggressive. If surgical intervention is considered, a preoperative CT scan would be recommended for surgical planning. Recommend 3-view thoracic radiographs.

Additionally, there is a lot of pathology associated with the gallbladder. There is a large amount of mineralized dependent sludge, and a focal irregularity in the wall, which could represent a benign inflammatory type polyp or neoplasia. Surgical removal and biopsy would be necessary for a diagnosis. Alternately, you could treat for cholecystitis with antibiotics and Ursodiol and continue to monitor this area with ultrasound. Additionally, there is a stone in the gallbladder. This does not appear to be causing a complete obstruction, but there is dilation of the bile duct distally, so it is likely that previous infection/mineralizations have occurred. Recommend continued monitoring, and if the patient is not feeling well or liver enzymes spike, reassess for possible obstruction.

Both adrenal glands are extremely enlarged for a dog of this size. It was not stated in the history if this dog was on Trilostane. If so, this could be secondary to that therapy, and you should compare this scans measurements to pre-treatment measurements. If not on Trilostane, this could be consistent with PDH (seems most likely), metastatic neoplasia, or bilateral adrenal tumors.

The changes in the kidneys and bowel are likely largely insignificant and age related. Correlate these findings with clinical picture and recommend treatment and close monitoring for cholecystitis.



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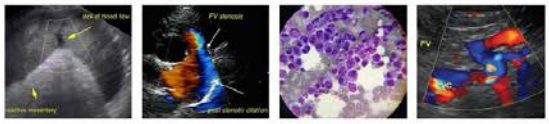

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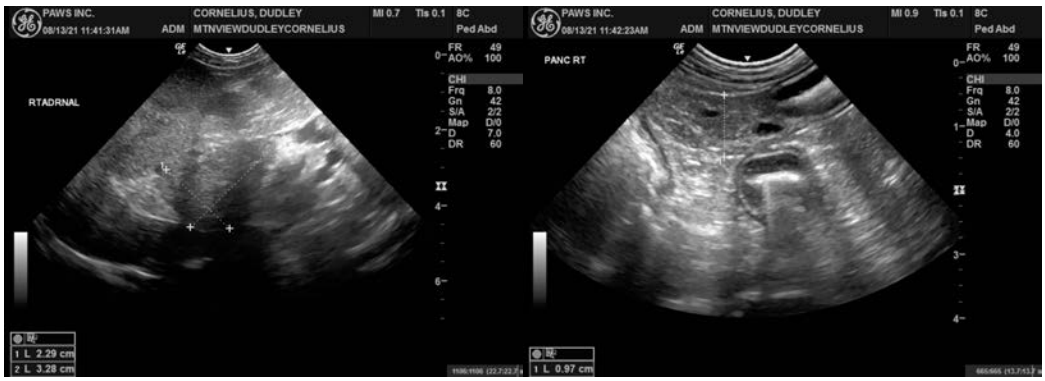

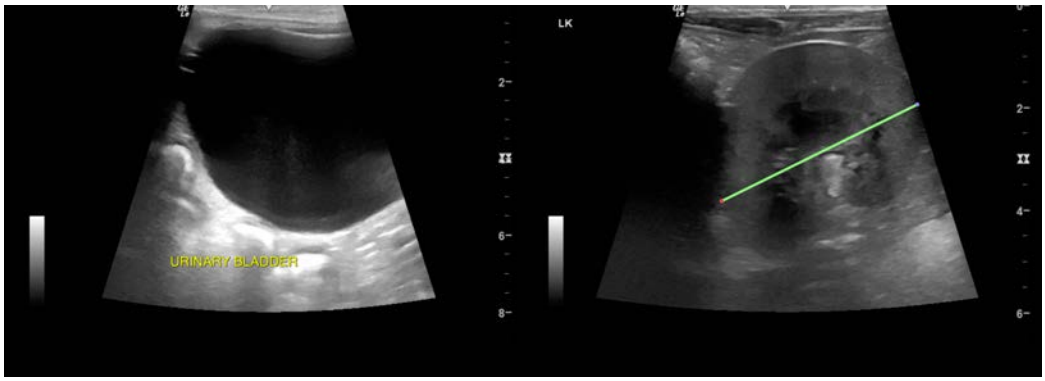

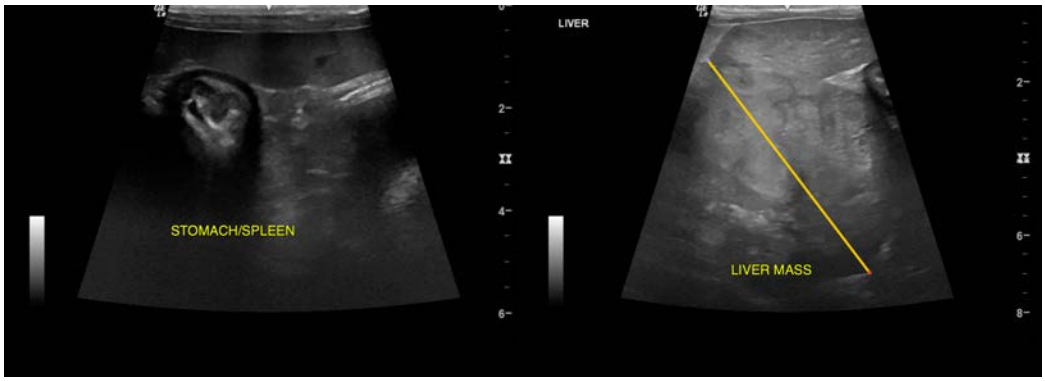

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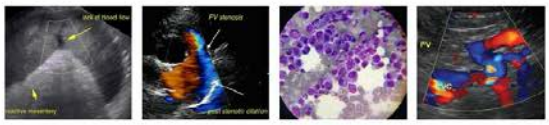

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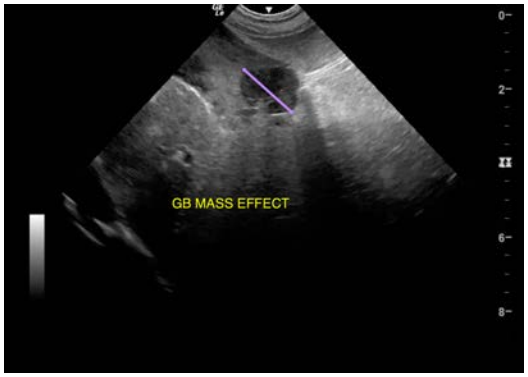

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com