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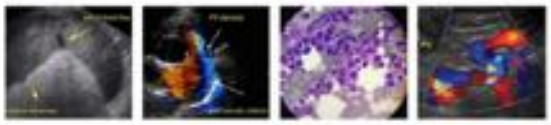


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Stella Pollack

SPECIES

Canine

BREED

Keeshond

SEX

Female Spayed

AGE

15 years

WEIGHT

13.2 kg

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Incline VH

REFERRING VET

Dr Kris Moger

INVOICE

13648

DATE

7.10.23

PRESENTING CLINICAL SIGNS

History: Panting and extremely tense during scan- added 0.03ml IV Dexdomitor for additional images- One year history of elevated liver enzymes on BW. History of DJD. Dental procedure performed 9/27/22 with few minor extractions, pt healed well. Pt also had intermittent diarrhea over past 6 months, became more severe with blood and mucous 2 months ago, also some vomiting. Pt responded to bland diet and course of Metronidazole (seen at another veterinary hospital 6/13), MEDS- Metronidazole 125mg PO BID; Denamarin SI

Abnormal PE/Chem/CBC/UA Results: ALT 185 U/L H 10 - 125 ALKP 1706 U/L H 23 - 212 Ca 12.1 mg/dL H 7.9 - 12.0 TP 8.9 g/dL H 5.2 - 8.2 ALB 4.0 g/dL H 2.2 - 3.9 GLOB 4.8 g/dL H 2.5 - 4.5 CHOL 411 mg/dL H 110 - 320

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately 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.

Left kidney is normal in size (5.75 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.

Right kidney is normal in size (5.69 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

Left adrenal gland is normal in size (0.55 cm at cranial pole / 0.68 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

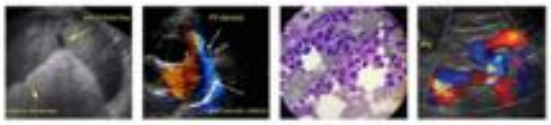
Right adrenal gland is normal in size (0.80 cm at cranial pole / 0.68 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

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). A 0.50 cm hypo- to anechoic non-capsule-disrupting nodule is noted mid-body. Splenic vasculature appears normal.

Liver

Liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. In the left caudal liver there is a heterogenous, slightly amorphous, primarily hypoechoic , approximately 4.50-5.00 cm mass, with a more discreet 3.00 cm nodule/mass within it. Additionally, in the right caudal liver, there is a 3.10 x 3.60 cm homogenous, hyperechoic nodule/mass. Visible vasculature and biliary tree appear normal without distension or congestion.



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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 isaempty 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. 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. Mesenteric and sublumbar lymph nodes prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

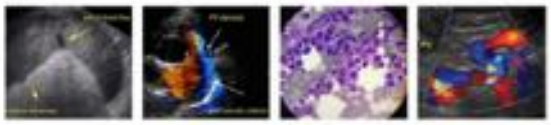
- The heterogenous left caudal liver mass is more atypical in appearance than the right caudal hyperechoic nodule, and is concerning for infiltrative neoplasia (such as round cell neoplasia vs primary hepatic neoplasia vs sarcoma vs other). Having said that, benign nodular hyperplasia, cysts, hematoma, etc. can mimic neoplasia and cannot be differentiated without tissue sampling. The right nodule trends more benign in appearance, as is seen with nodular hyperplasia, fibrosis of an old hematoma, granuloma, myelolipoma, etc. Neoplasia cannot be ruled out but is considered less likely.

- Hypo to anechoic splenic nodule – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.

- Reactive mesenteric and sublumbar lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's hypercalcemia, further evaluation of the hypercalcemia to help guide other diagnostic recommendations is recommended, beginning with a malignancy profile to include PTH/PTHrP and ionized calcium. In the meantime, if not already evaluated, a thorough rectal and perianal exam is recommended, as is a thorough peripheral lymph node palpation. Given the hypercalcemia, especially if the PTHrP is supportive of a hypercalcemia malignancy vs hyperparathyroidism, malignancy is more of a concern for the



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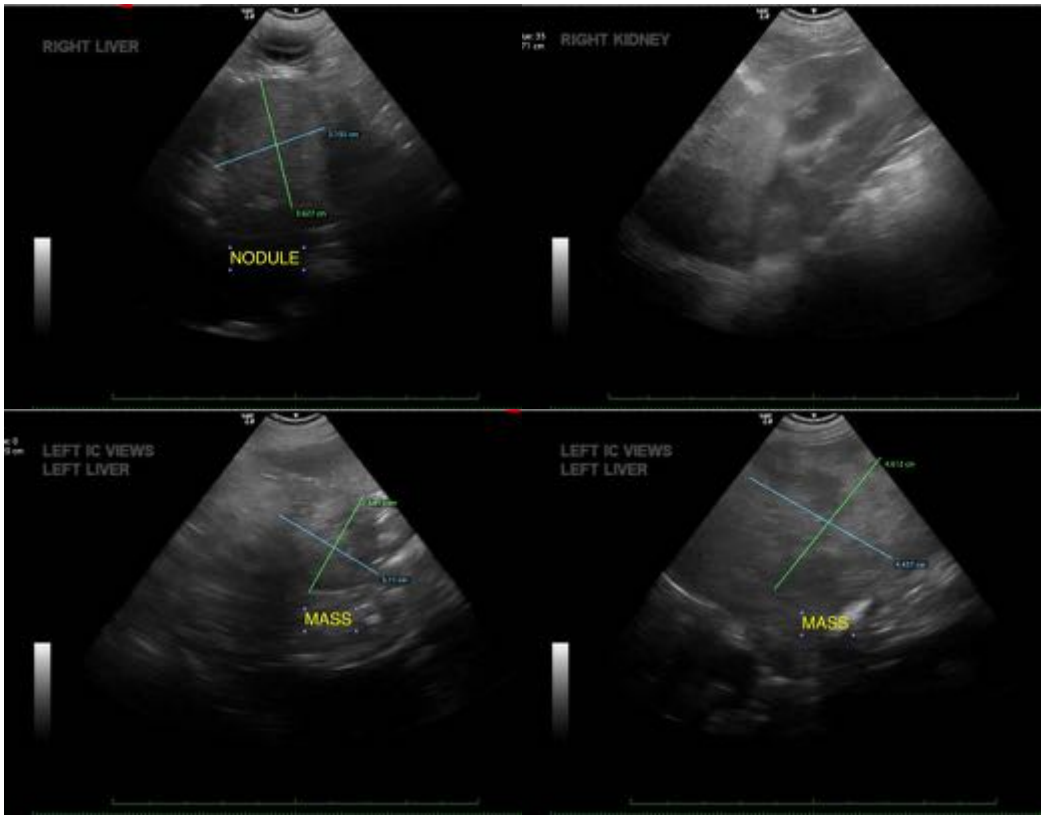
liver nodules, +/- the lymph nodes and sampling is recommended, beginning with fine-needle aspirates of both liver masses, as well as the enlarged sublumbar lymph nodes (if they can safely be reached and if patient's coagulation status is appropriate). Additionally, while there are ultrasonographically visible pathologic changes of the GI tract to lump the reported hematochezia in with the hypercalcemia work-up, that does not rule out infiltrative bowel disease.

If not recently evaluated, a fecal exam is recommended, as is a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function. A fecal enteropathogen PCR panel to Texas A&M GI Laboratory could be considered for further evaluation of possible infectious disease. However ultimately, if a diagnosis is not obtained from the above recommended diagnostics, a colonoscopy could be considered.

In the meantime, empirical deworming with a 5-day course of Panacur is recommended, as is a probiotic such as Visbiome or Proviable.



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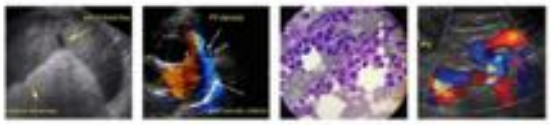

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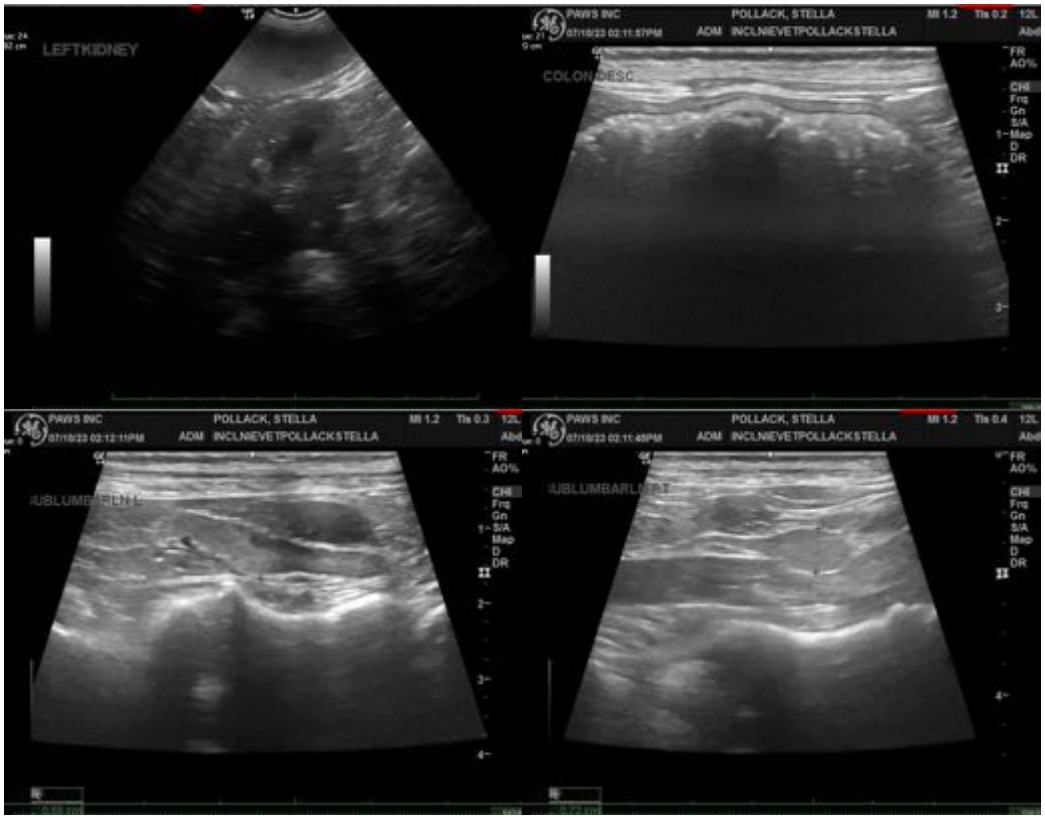

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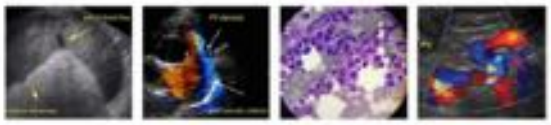

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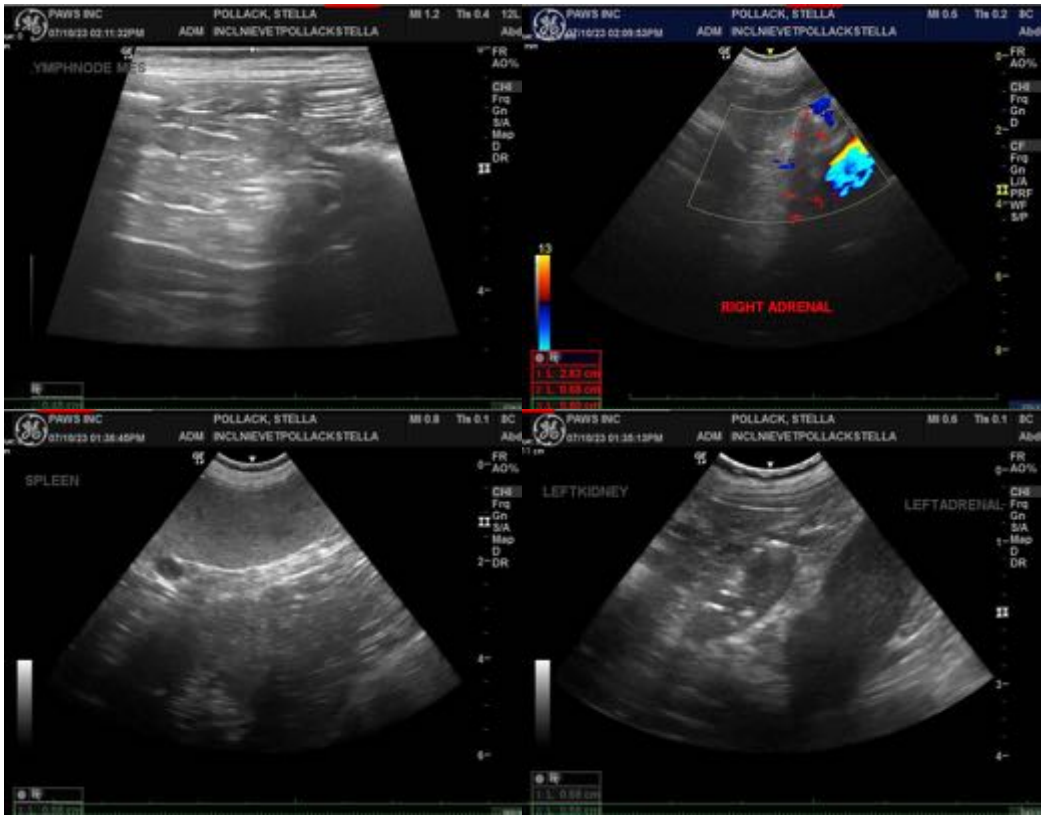

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM DACVIM
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