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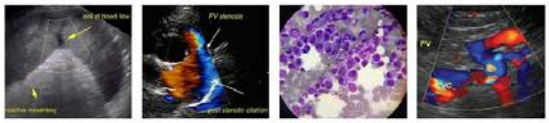


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Addie Owen

SPECIES

Feline

BREED

Persian

SEX

Spayed Female

AGE

13 Years

WEIGHT

7.28 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, RVT

HOSPITAL NAME

Brighton Greens VH

REFERRING VET

Dr. Robin Janeway

INVOICE

25763

DATE

9/22/21

PRESENTING CLINICAL SIGNS

Age: 13 yrs Weight in #: 7.28lbs (June 2020 pt weighed 9.4lbs) Breed: Persian History- Grade 3/6 systolic murmur prev echo revealed hypertrophic cardiomyopathy. No tx needed at this time. Pt had a dental performed in May and a mass removal from her ventral abdomen in August that revealed inflamed lipoma. Pt has polycystic kidney disease. Recently pt has had decreased appetite and diarrhea. Tx metronidazole x 10 days, improved but sometimes more normal feces and sometimes diarrhea still. On mirtazapine due to anorexia and weight loss. On renal supportive diet. 9/8/2021 Lab results- Ca 12.5, Mg 1.3, hct 28, USG 1.011. Urine culture negative. Prev suspicion of thoracic mass. Recheck rads 9/13/21- Radiographic Findings Five views of the thorax are provided. This is compared to a previous study from January 2021. There is again noted a rounded to lobular mass effect in the caudal thorax. This is relatively similar in size in the recheck interim. The mass lesion is confluent with the diaphragm and extends up to the heart. The mass does contain a significant fat like opacity. Overall cardiac size appears within normal limits. There is a prominent aortic arch, often age-related. There are minimal bronchial markings static in the recheck interim. The trachea is unremarkable. No other nodular lesions are appreciated. The stomach contains moderate ingesta like material. The left kidney is enlarged and irregularly marginated. The spleen is normal in size but also slightly irregular margination. The right kidney has mostly obscured margins. Diffusely the intestinal tract is gas-filled. The kidneys appear to have slight mineralization. The urinary bladder is mostly superimposed by bowel especially colon. Tiny radiopacities over the bladder could be urinary versus intestinal. Abdominal serosal detail appears adequate. Conclusion Static mass effect in the caudal thorax. Lack of progression the recheck interim and confluence with the diaphragm is more suggestive of a diaphragmatic hernia/eventration, which can resemble pulmonary masses. Ultrasound could be useful to confirm. Renomegaly with irregular margination consistent with the history of polycystic kidney disease. Equivocal tiny amount of mineral debris or calculi in the region of the bladder or distal ureters. Minimal renal mineralization. Moderate ingesta within the stomach consistent with recent meal. Gassy intestinal tract. No radiographic evidence of cardiac decompensation. Splenic irregularity; a small splenic nodule remains possible ultrasound may be necessary to further assess. This could be a benign change.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

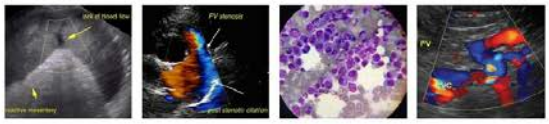
The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney is large and irregular in shape. The visible parenchyma is hyperechoic, and there are too numerous to count cystic structures varying in size from 0.31-3.1 cm with very little normal parenchyma or architecture. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts, or hydroureter. Renal vasculature appears normal.

The right kidney is large (4.6 cm) and irregular in shape. The visible parenchyma is hyperechoic, and there are too numerous to count cystic structures varying in size from 0.4-1.9 cm with very little normal parenchyma or architecture. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts, or hydroureter. Renal vasculature appears normal.

Adrenal Glands

The left adrenal gland is large in size measuring 0.88 cm at the cranial pole, 0.46 cm at the caudal pole and 1.68 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat abnormal in appearance, in that it is large and hypoechoic with an enlarged cranial pole. Findings are most consistent with a left-sided adrenal mass.



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The right adrenal gland is normal in size measuring 0.48 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 subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous in echotexture. The position of the liver within the cranial abdomen is somewhat abnormal, and there is the appearance of a bulge of liver penetrating through the diaphragmatic wall, resulting in a 2.23 cm x 2.9 cm mass effect caudal to the heart, which I suspect is herniated liver. The liver is within the abdominal cavity and has minimal biliary secretions, but the bile duct appears dilated. No focal nodules or cystic lesions are observed.

The gallbladder area is evaluated and there appear to be two structures consistent with gallbladder lumens. Both of these structures have minimal distention and minimal intraluminal debris. The wall does not appear thickened and has a smooth mucosal surface. Each gallbladder appears to have its own cystic duct, which then joins into the common bile duct. These structures appear somewhat dilated and tortous, measuring The bile duct appears dilated and somewhat tortuous, measuring 0.38 cm proximally and more distally near the duodenal papilla measuring 0.25 cm. No evidence of stones or obstructive mucus.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm 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 relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measured 0.21, 0.22 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.

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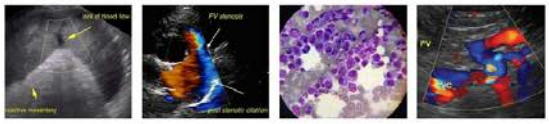

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Free Abdomen

A scant amount of free fluid is noted around the area of the diaphragmatic hernia. No lymphadenomegaly noted. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is generally of normal uniform echogenicity.

Other

A 2.23 cm x 2.9 cm caudal thoracic mass is observed adjacent to the heart. This structure is most consistent with hernia liver. Scant effusion is observed in the area of the herniation.

ULTRASONOGRAPHIC FINDINGS

- Severely cystic kidneys – most consistent with bilateral polycystic renal disease.
- Suspect diaphragmatic herniation of liver into the thorax, resulting ina caudal thoracic mass – this is likely a chronic incidental finding.
- Left-sided adrenal mass – Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Double gallbladder with common bile duct dilation – Dilation of the common bile duct could be consistent with a functional obstruction (i.e. primary hepatic disease resulting in hepatocellular swelling) or with an extrahepatic bile duct obstruction (ie. choledocholith, bile duct tumor, pancreatic disease, other).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a lot going on this abdomen and it may be challenging to figure out what is clinically relevant. There appears to be a diaphragmatic hernia with liver suspected to be in the thorax. Correlate findings with liver values and respiratory pattern. If the patient does not appear distressed, I suspect this is chronic and incidental, and it may not need to be corrected. Consider consultation with a veterinary surgeon regarding this issue.

The kidneys are severely polycystic. Based on the history, this cat is unlikely to be azotemic, yet recommend evaluation of blood pressure and thyroid levels if not already done (and close monitoring for progressive renal disease).

Additionally, there is a left sided adrenal mass. This could be benign or malignant, and could be secreting hormone or not. Recommend a blood pressure evaluation and close examination of electrolytes to look for any evidence of hyperaldosteronism. If any symptoms are present consistent with Cushing's, a pheochromocytoma or hyperaldosteronism, consider adrenal function testing, aldosterone levels, and/or catecholamine testing. Typically adrenal masses are treated surgically in cats. If this is considered, a preoperative CT scan would be ideal, and I would include the thorax to better evaluate the hernia.

Unfortunately, an obvious cause for the diarrhea reported is not observed. Consider metabolic causes based on recent blood work, a GI panel to look for evidence of pancreatitis and B12 deficiency etc. If metabolic disease is thought unlikely, then consider primary GI causes such as GI parasitism, dietary indiscretion, mild pancreatitis, bacterial dysbiosis, food allergy, IBD, and less likely intestinal neoplasia.

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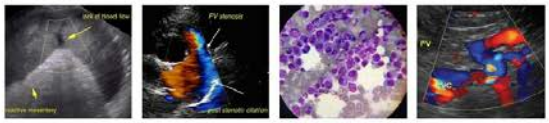

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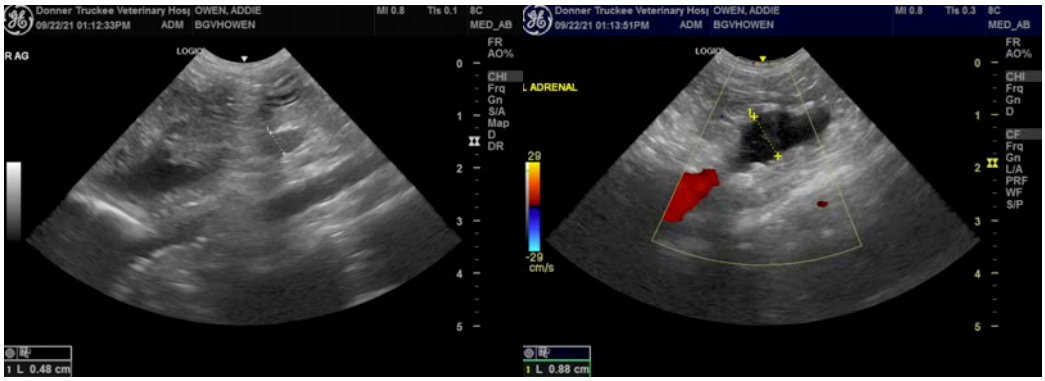
In older patients with more chronic symptoms, I would most strongly consider food allergy, IBD, and intestinal neoplasia.

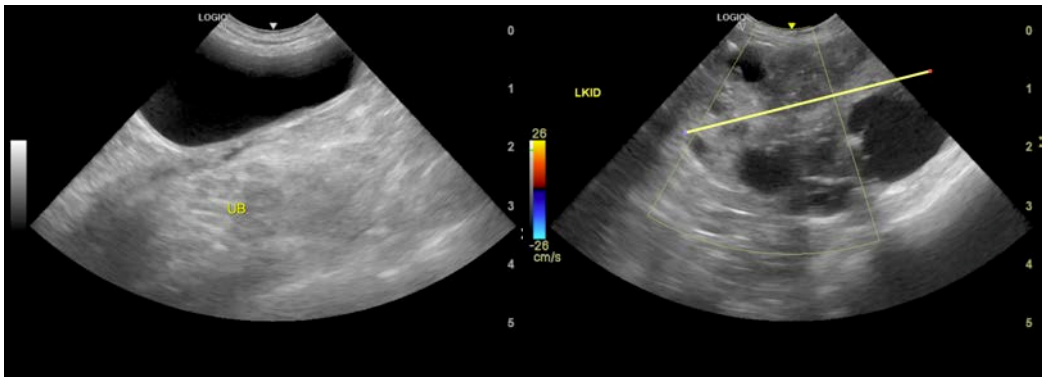
-Recommend diet trial with a novel protein/hydrolyzed prescription diet

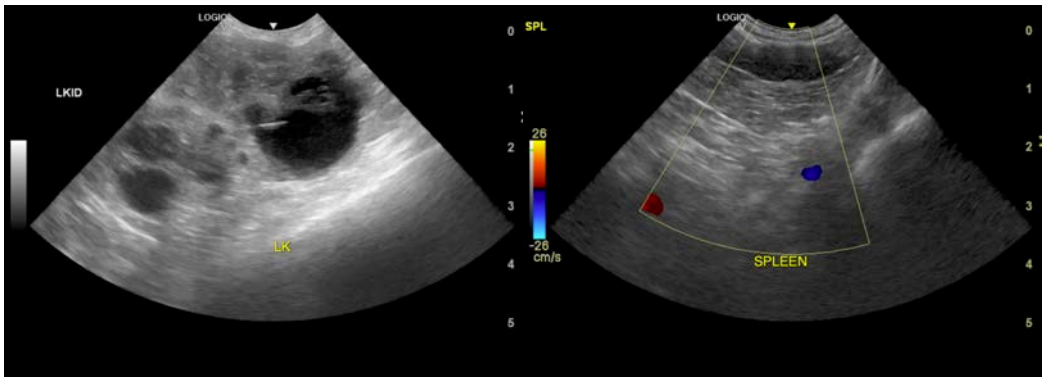
-Recommend GI panel for evaluation of B12 levels etc. (start empirical B12 while waiting for results)

-Recommend probiotic

-If symptoms are progressing consider obtaining GI biopsies







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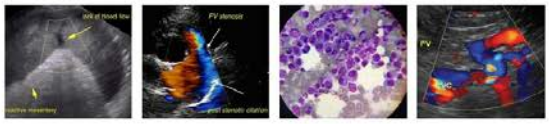

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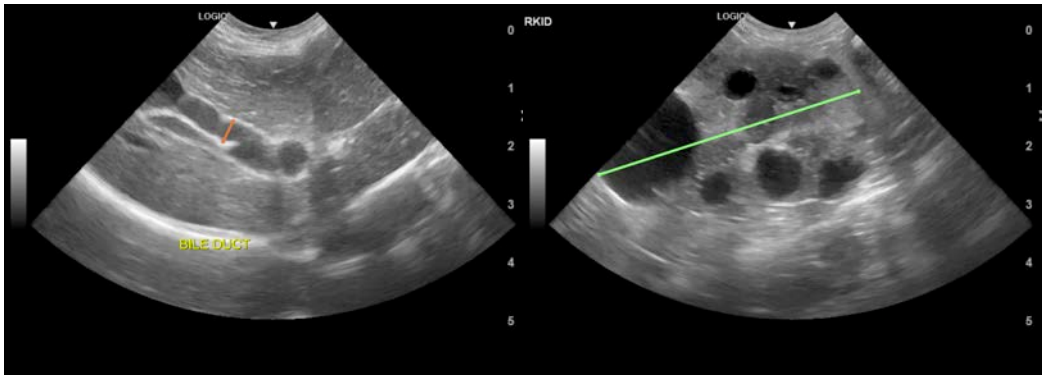

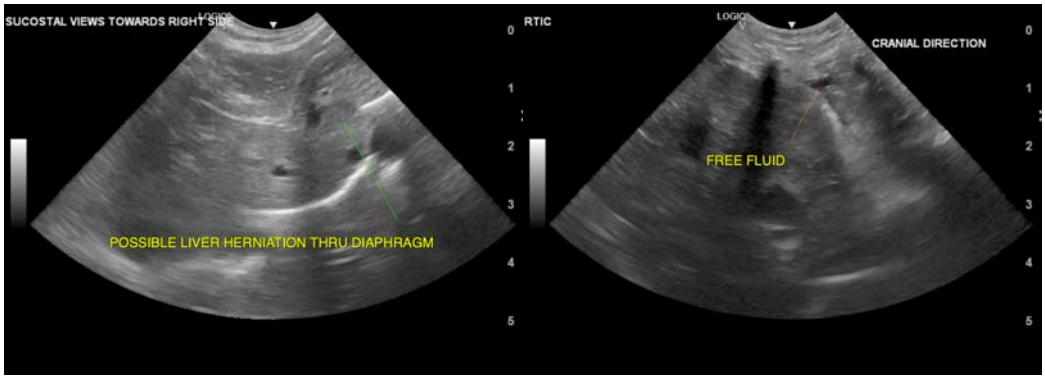

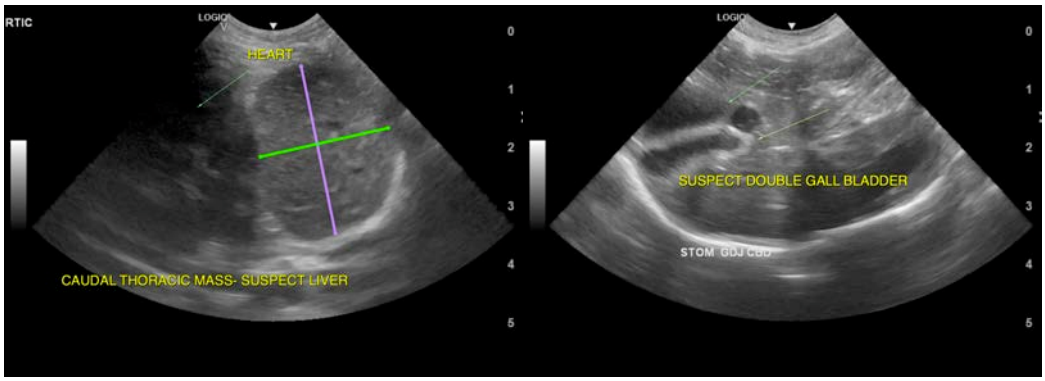

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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