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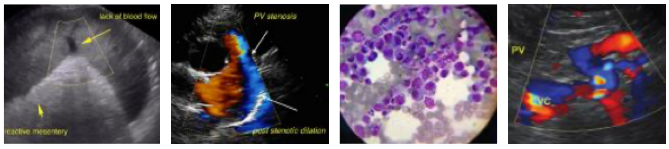


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Angel Queen

SPECIES

Canine

BREED

Terrier Mix

SEX

Spayed Female

AGE

13 years

WEIGHT

20.1 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Amy Jagger DVM

HOSPITAL NAME

VCA Parkway AH

REFERRING VET

Amy Jagger DVM

INVOICE

12981

DATE

5.8.23

PRESENTING CLINICAL SIGNS

History: On multiple cardiac medications, was recently hospitalized at the ER for vomiting, liver value elevations, fever and rapid breathing. Fever resolved with fluids and antibiotics over multiple days. Labs improved but liver values still elevated, mild azotemia resolved on fluids but recurred after hospitalization (on diuretics). Vomiting intermittently still. Had echo with cardiologist today and cardiac measurements have actually improved so recent illness not d/t worsening of her heart disease.

Abnormal PE/Chem/CBC/UA Results: ALT (SGPT) 327 12 - 118 IU/L Alk Phosphatase 670 5 - 131 IU/L BUN 57 6 - 31 mg/dL Creatinine 2.7 0.5 - 1.6 mg/dL SDMA 11.9 <14 ug/dL CALCIUM 11.6 8.9 - 11.4 mg/dL CHLORIDE 101 102 - 120 mEq/L CHOLESTEROL 329 92 - 324mg/dL Sample Conditions Lipemia 1+. No significant analyte interference. Hemolysis 1+. No significant analyte interference. Complete Blood Count Platelet Count 719 170 - 400 10^3/uL

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 has a normal shape and size (3.51 cm). Overall echogenicity is normal with decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is mild pyelectasia (0.18 cm) and small nonobstructive nephroliths (1.00 to 2.00 mm). There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.70 cm). Overall echogenicity is normal with decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is mild pyelectasia (0.27 cm) and pinpoint nonobstructive nephroliths. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large (0.58 cm at the cranial pole / 1.25 cm at the caudal pole) and slightly irregular in shape. It is observed in its normal position cranial to the left renal artery. It is somewhat abnormal in appearance in that the caudal pole is rounded and enlarged, with a hypoechoic nodule. No evidence of vascular invasion is visualized.

The right adrenal gland is normal/borderline large (0.82 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.

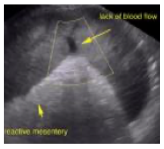
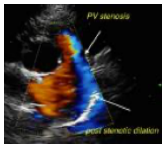
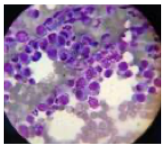
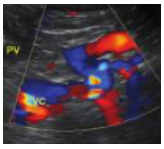
Spleen

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 echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

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Gastrointestinal

The stomach contains moderate fluid and ingesta. 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 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. The duodenum measured as normal (0.55 cm in wall thickness) and the jejunum measured as normal (0.27cm). 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 prominent and mottled. 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 mesentery appears hyperechoic in the right cranial abdomen and the region of the pancreas. 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.

ULTRASONOGRAPHIC FINDINGS

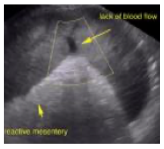
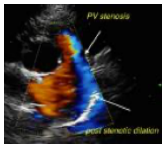
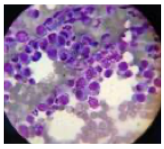
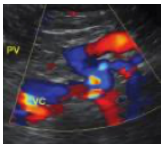
Primary Findings

- Large caudal pole of the left adrenal - adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochdromocytoma), hyperplasia, inflammation, other.
- Decreased corticomedullary distinction in both kidneys with mild bilateral pyelectasia and small nonobstructive nephroliths - Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the kidneys could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Prominent mottled pancreas - the pancreatic changes are most consistent with mild pancreatitis/pancreatic infiltration. Recommend PLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A hypoechoic nodule is visualized in the caudal pole of the left adrenal. This could represent a benign or an early neoplastic lesion, and this could be an active or non-secretory lesion. These are possible considerations for further evaluation of the adrenal lesion:

- If signs of Cushing's are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol (other testing can suffice). Adrenal

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function testing may be somewhat difficult to interpret (if a concurrent issue such as the chronic vomiting is present).

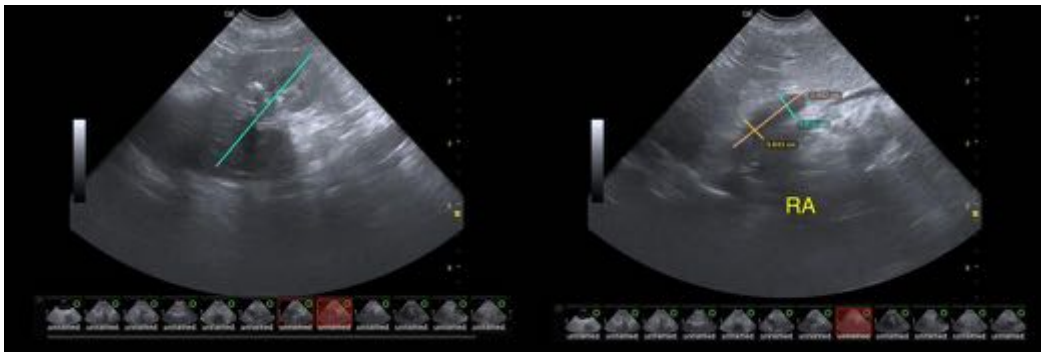
- If adrenal dependent Cushing's is suspected and supported by adrenal function testing, consider medical therapy with lysodren or trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of Cushing's are present, consider either referral for surgery or continued monitoring with ultrasound (in 2-3 months).
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

The proximal duodenum appears slightly fluid-dilated. There is hyperechoic mesentery surrounding this region. No focal lesions are observed associated with the small intestinal tract, but there is a moderate amount of fluid and shadowing gas in the gastric lumen. There are some very small areas of prominent pancreas in this region. Correlate these findings with a quantitative cPLI level, as pancreatic inflammation could be a possibility. No other focal lesions were observed to explain the reported chronic vomiting. This seems unlikely associated with the adrenal enlargement. If there is concern for possible primary liver disease, you could consider a liver function test.

Otherwise, if primary gastrointestinal is suspected as the source of the occasional vomiting, you could consider such differentials as food allergy/dietary intolerance, GI parasitism, pancreatitis, dysbiosis, IBD, and less likely, GI neoplasia.

- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc. to further evaluate for pancreatic/small intestinal disease.
- Consider chronic probiotic therapy.
- If vomiting persists and a metabolic cause for the vomiting is thought unlikely, then consider obtaining GI biopsies, +/- reevaluation of the pancreas.



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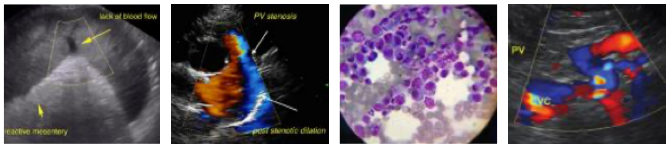

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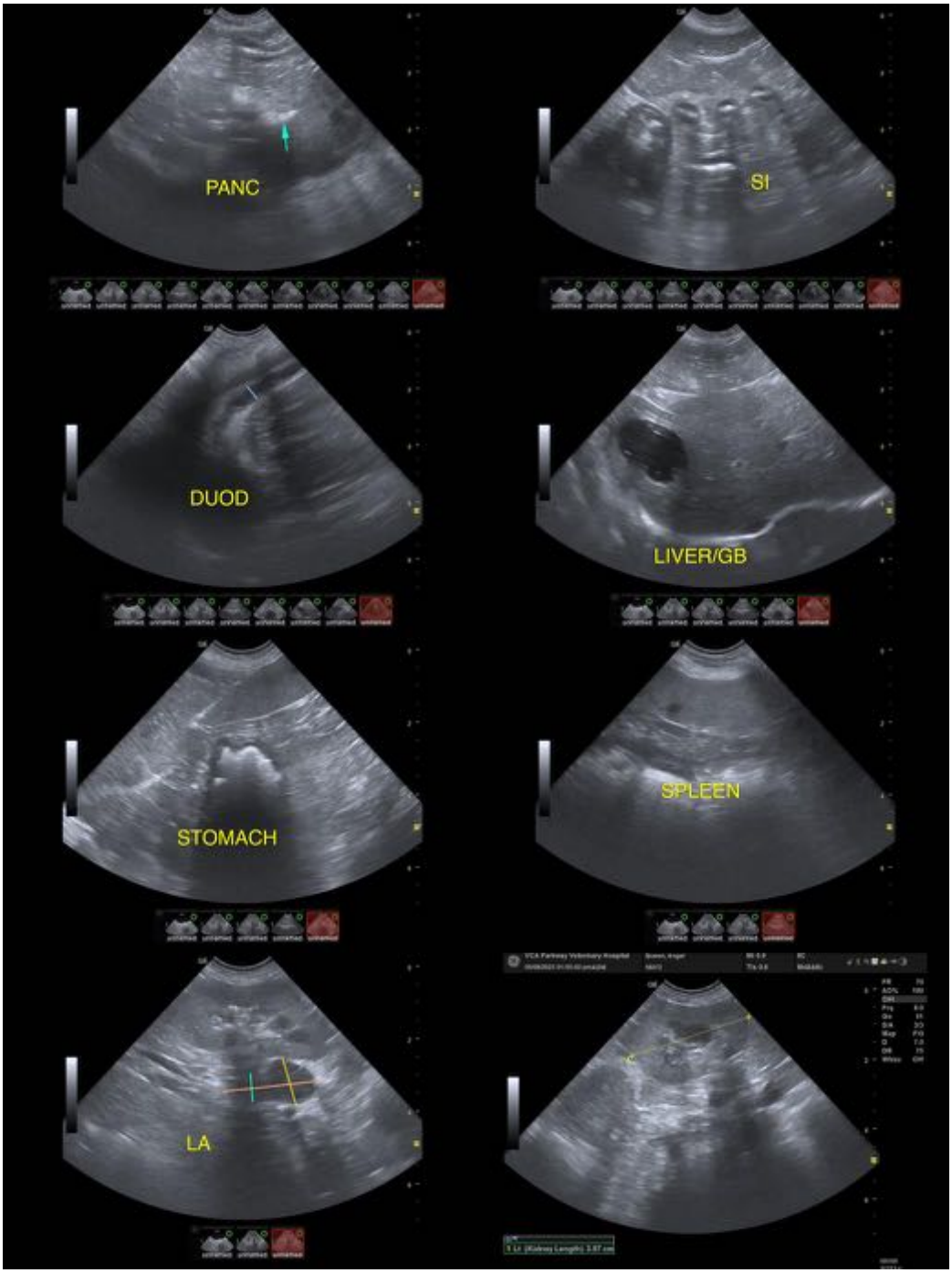

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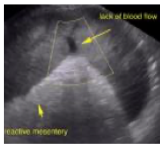
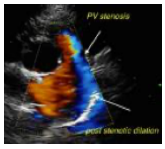
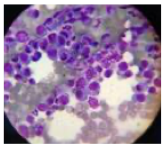
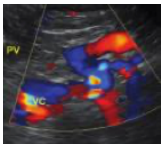

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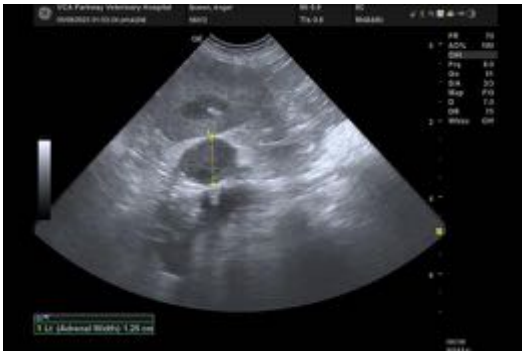

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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