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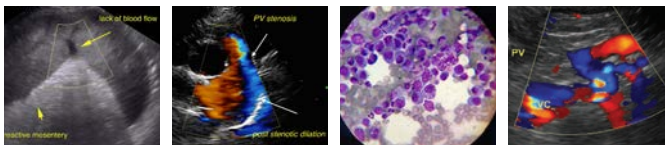

SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT

Trennie Schaffer

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

14 Years

WEIGHT

12.2

INTERPRETED BY

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

IMAGING PERFORMED BY

Chaley Hunt, LVT

HOSPITAL NAME

Columbia AC

REFERRING VET

Dr. Laura Baker

INVOICE

44126

DATE

1/11/23

PRESENTING CLINICAL SIGNS

Referral from Tecumseh Animal Hospital. Diabetic patient with increased ALT/ALKP/ALB/GGT/Chol on 12/8/22. Looking for liver masses or Cushings. Has heart murmur grade 3/6, head tilt on 11/29/22 On Vetsulin 3.5 units BID w/d food Apoquel 5.4 mg 1/2 tab SID/BID Gabapentin Potassium Citrate up to TID

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

The right kidney has a normal shape and size (3.83 cm) with mild pyelectasia at 0.21 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal/borderline “plump”, measuring 0.62 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 normal/borderline “plump”, measuring 0.65 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 and irregular. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. The hepatic parenchyma is severely mottled with diffuse hypoechoic nodules varying in size from 0.25-1.5 cm and occasional hyperechoic nodules. There is a somewhat cystic, ill-defined, hyperechoic mass effect visualized measuring 1.62 cm x 2.31 cm, and a large irregular/lobulated, solid hypoechoic mixed echogenic mass arising from the caudoventral aspect of the liver, measuring 2.61 cm x 5.19 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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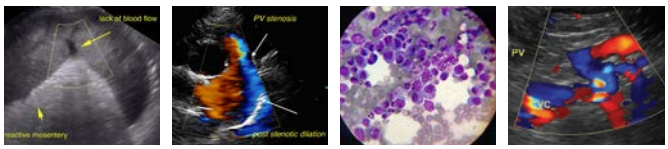

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Gastrointestinal

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 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 (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 area of 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.

PRIMARY FINDINGS

- Mildly reduced corticomedullary distinction in both kidneys with mild right-sided pyelectasia – The bilateral renal findings are consistent with age-related change.

- Large, irregular, heterogeneous liver with diffuse hyper- and hypoechoic nodules as well as a cystic hyperechoic mass effect and a larger lobulated hypoechoic, mixed echogenic solid mass effect – 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 appearance of the hyperechoic cystic mass lesion trends towards a more benign lesion. The larger solid lobulated mass effect could be a benign or neoplastic lesion. Consider a fine needle aspirate. The diffuse nodular pattern could represent a metastatic pattern but trends towards a more benign appearance.

SECONDARY FINDINGS

- Mild gallbladder debris - The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

- Borderline “plump” adrenal glands – This could be within normal limits for this individual or could be consistent with early hyperplastic change (PDH).

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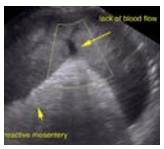
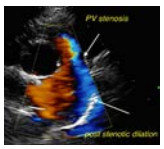
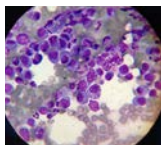
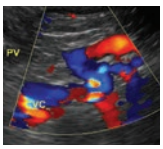

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

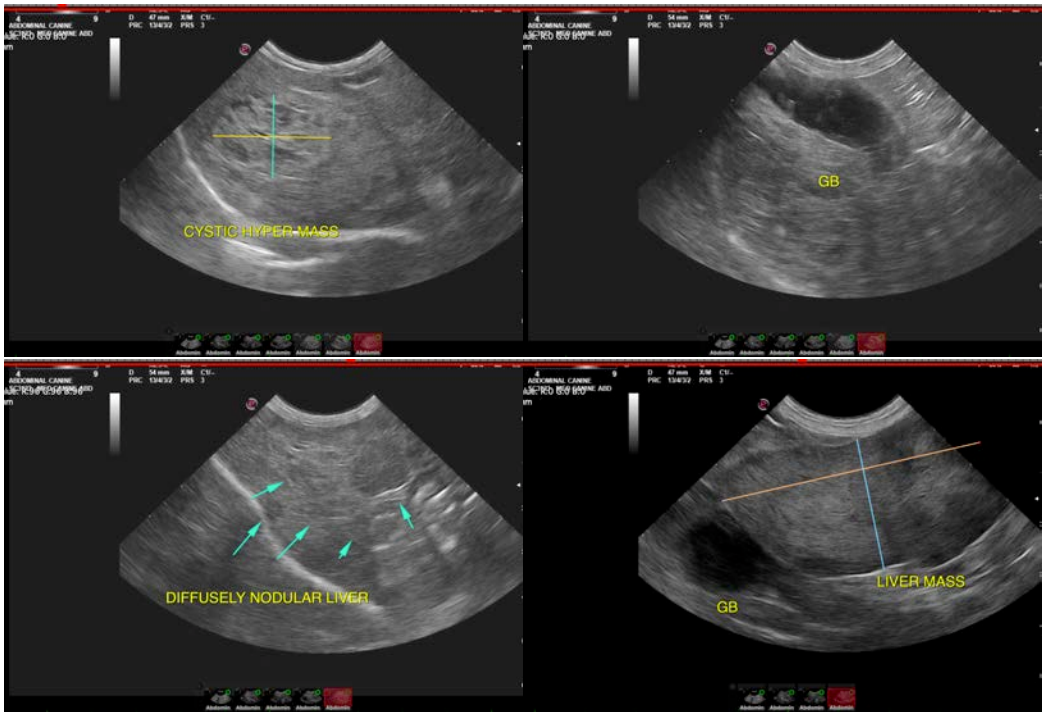
The liver is very abnormal with severely heterogeneous parenchyma, intraparenchymal nodules, and a cystic mass effect, as well as a somewhat expansile solid mass effect arising from the caudoventral aspect of the liver. This could represent a primary hepatic mass lesion (carcinoma, adenoma, etc.), and the hypoechoic nodules could represent metastatic lesions, but more likely benign regenerative nodules, etc.

Consider a fine needle aspirate of the large hepatic mass lesion and the more "normal" nodular parenchyma. It is possible that if this is a slow growing mass effect that this could be asymptomatic at this time. If surgical resection is desired, then consider a contrast CT scan to get a more global view of this abnormal liver for surgical planning.

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

The changes observed in the kidneys are most consistent with chronic age-related changes. There is mild pyelectasia in the right kidney. Recommend a urinalysis, culture, and blood pressure evaluation.

While Cushing's disease cannot be ruled out, I suspect much of the liver enzyme elevations are secondary to the liver pathology described.



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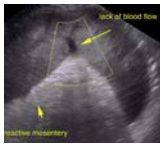
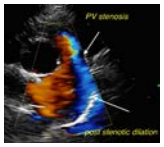
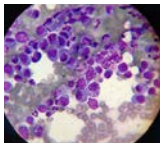
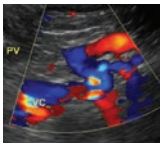

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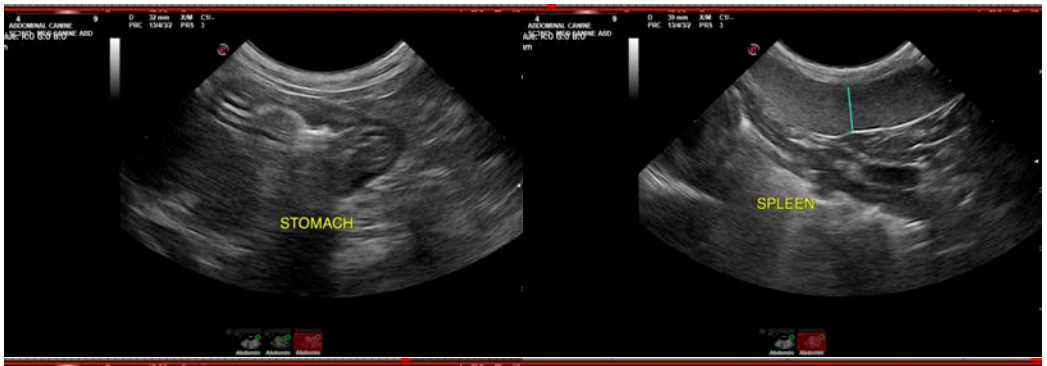

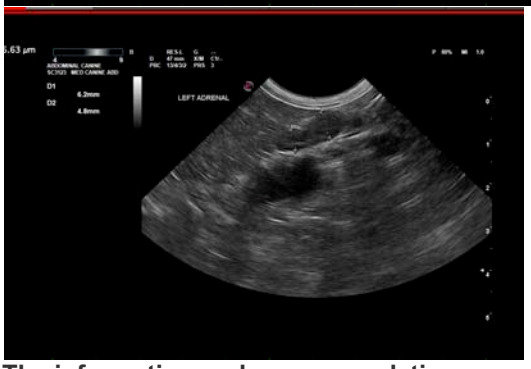

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
kathleen.sennello@sonopath.com