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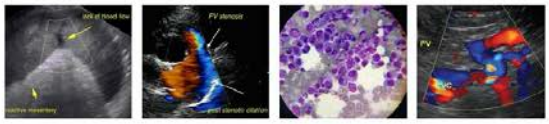

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Max Valentine

SPECIES

Canine

BREED

Spitz X

SEX

Neutered Male

AGE

14 Years

WEIGHT

21.8 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

34244

DATE

1/13/22

PRESENTING CLINICAL SIGNS

Chief Concern / Provisional Diagnosis: ~elevated liver enzymes: (ALT 349; ALP 486) hx: otitis, otherwise asymptomatic ~ Relevant Medical History and Physical Exam findings: ~unremarkable PE ~ Recent Diagnostics: Relevant Labratory Results / Abnormalities: ~elevated liver enzymes: (ALT 349; ALP 486)~ Current medications (include full name, dosage and frequency): ~none ~ Relevant Radiograph Findings(email radiographs if available): ~~

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 (1.0 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 (4.3 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.

The right kidney has a normal shape and size (4.5 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 normal in size measuring 0.56 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 in size measuring 0.35 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 heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

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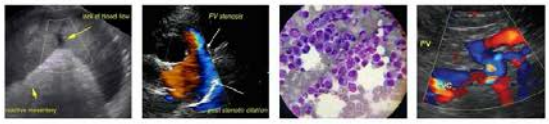

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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach is dilated with a moderate/large amount of fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering 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. Duodenum wall measured 0.44 cm. Jejunum wall measured 0.37 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. A focal area of colon is visualized with shadowing fecal material within, and a focal area of wall thickening with loss of detail of layers, measuring 0.44 cm. The stool within the colon obscures visualization from multiple angles, so this could be an artifactually obliqued view.

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 significant pericardial effusion was seen.

There is a small area along the body wall consistent with either small inguinal hernia or the umbilicus.

PRIMARY FINDINGS

- Mildly heterogeneous liver – 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.
- Gastric dilation with fluid – Correlate with feeding and drinking history. If adequately fasted, then consider such differentials as delayed gastric emptying or a partial outflow tract obstruction (none visualized).
- Subjective focal colonic wall thickening – This could be consistent with inflammatory, infectious or neoplastic change. Alternately, it could be due to imaging artifact. Recommend recheck of this area.

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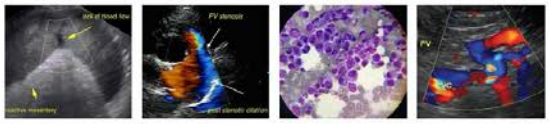

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SECONDARY FINDINGS

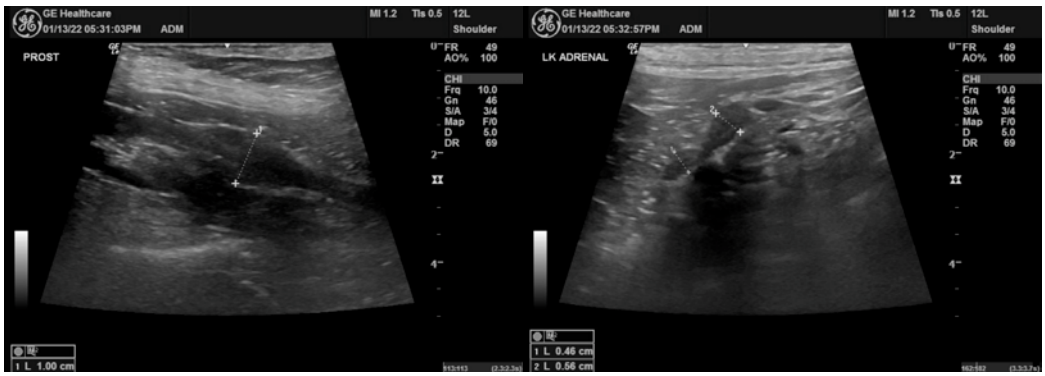
- Suspect area on body wall consistent with either an umbilicus or umbilical hernia (no significant structures appear herniated).
- Decreased corticomedullary distinction both kidneys – The bilateral renal findings are consistent with age-related change.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The changes observed in the liver are non-specific. No focal lesions were observed. The gallbladder appears relatively normal. Unfortunately, the sonographic changes do not always reflect the severity or cause of the hepatopathy.

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with cushings are present, consider adrenal function testing (ACTH stim)
- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)
- If the bile acids are abnormal and there is no response to medical care (denamarin +/- antibiotics,+/- ursodiol) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

There is a focal area of colon that appeared somewhat abnormal on today's scan. This area was difficult to fully evaluate due to shadowing stool within the colon (unable to get sagittal and oblique views). This could be artifact or could represent an early mass lesion, early colitis, etc. Recommend recheck ultrasound of this area in 2-4 weeks. Additionally, consider a rectal exam to see if you can palpate any mucosal irregularities.



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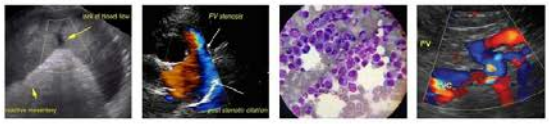

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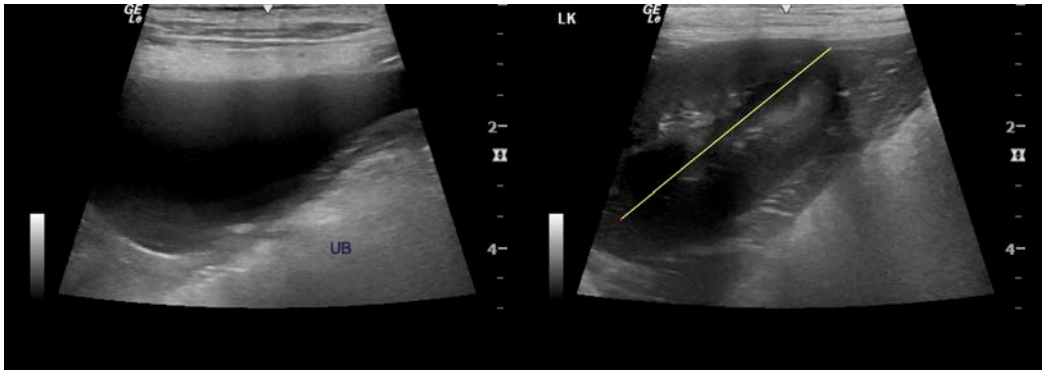

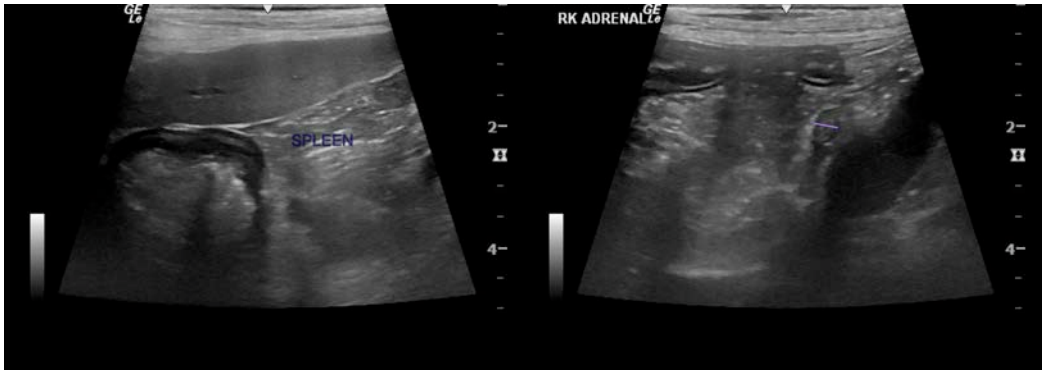

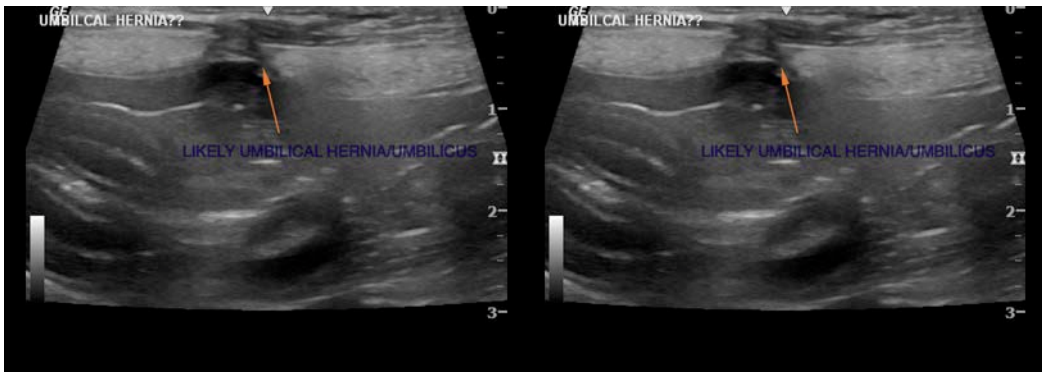

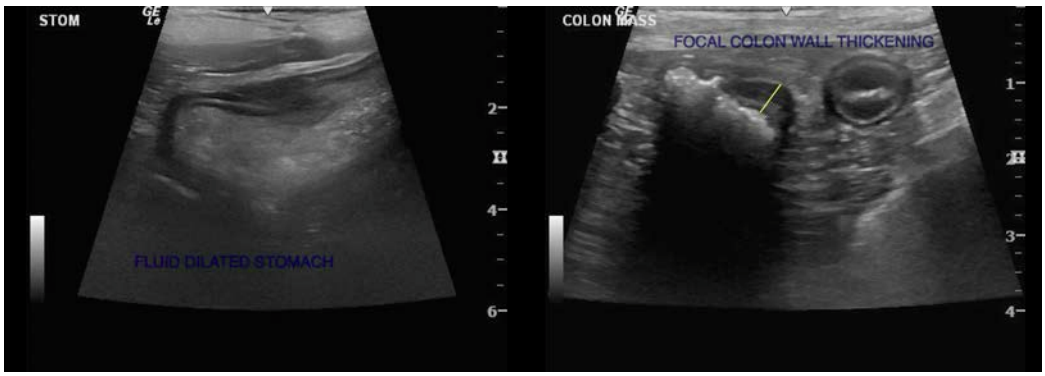

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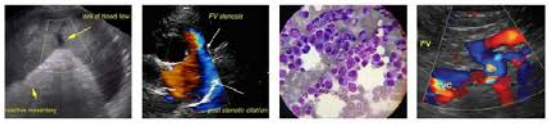

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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