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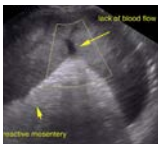
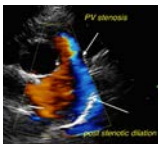
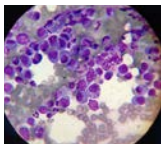
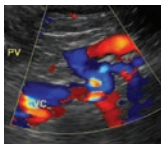

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1-800-838-4268 info@sonopath.com

**PATIENT**
Clyde Cook

**SPECIES**
Canine

**BREED**
Beagle X

**SEX**
Neutered Male

**AGE**
13 Years

**WEIGHT**
22.8 kg

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

**IMAGING PERFORMED BY**
Dr. Yashar Alami Alamdari

**HOSPITAL NAME**
King Hopkins PH

**REFERRING VET**
Dr. Yashar Alami Alamdari

**INVOICE**
34135

**DATE**
1/11/22

## PRESENTING CLINICAL SIGNS

Clyde is a 13 yo MN Beagle X who presented for restlessness and panting overnight. His rDVM recently diagnosed him with hypothyroidism. O has been giving 0.5 mg BID of Levothyroxine and finds that Cyde is not PU/PD. He also takes a glucosamine supplement. Severe hyperpigmentation of groin area. No c/s/v/d.
Abnormal PE/Chem/CBC/UA Results: Blood work: - RBC 4.75 5.65 - 8.87 M/µL L - Hematocrit 34.4 37.3 - 61.7 % L - Hemoglobin 11.6 13.1 - 20.5 g/dL - Neutrophils 12.22 2.95 - 11.64 K/µL - Monocytes 1.14 0.16 - 1.12 K/µL - Eosinophils 0.05 0.06 - 1.23 K/µL - Glucose 599.53 70.08 - 143.22 mg/dL - ALP 1,905 23 - 212 U/L - Lipase 3,508 200 - 1,800 U/L - Snap cpli: abn Urinalysis: - USG=1.022 - Urine Pr 30 mg/dL - Glucose 1,000 mg/dL - Ketones 50 mg/dL – Bacteria

## 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 (1.3 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 (6.94 cm). Overall echogenicity is normal with adequate 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 (7.34 cm). Overall echogenicity is normal with adequate 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 borderline enlarged in size measuring 0.84 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 large in size measuring 1.2 cm at the cranial pole, 0.75 cm at the caudal pole, and 2.3 cm in length. 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. The spleen echotexture is heterogenous and mildly mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a 2.0 cm x 1.5 cm hypoechoic nodule/mass effect arising from the tail area of the spleen. This lesion appears to disrupt the splenic capsule. Additionally, there is a smaller lesion mid body, which is a hypoechoic nodule, measuring 4.5 cm x 0.26 cm.

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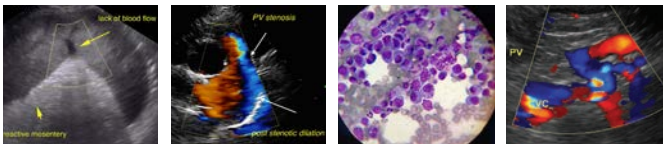

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### *Liver*

The liver is large in size, and normal in 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.

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.

### *Gastrointestinal*

The stomach contains minimal luminal contents. It measures at a normal thickness of 0.41 cm 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. Duodenum wall measured 0.59 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. 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 hypoechoic as compared to the surrounding isoechoic 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. There are prominent mesenteric lymph nodes measuring 0.3, 0.49 cm. The omentum is generally of normal echogenicity.

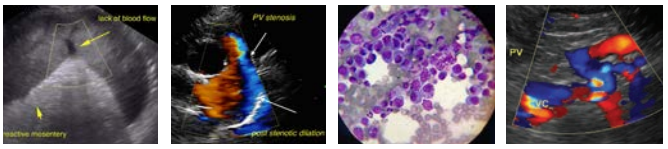
### ULTRASONOGRAPHIC FINDINGS

- Borderline bilateral adrenomegaly – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.

- Hypoechoic splenic mass/nodules – These could be benign or malignant, but disruption of the splenic capsule is concerning.

- Prominent, hypoechoic pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

- Large, 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. Findings are likely consistent with a diabetic hepatopathy.



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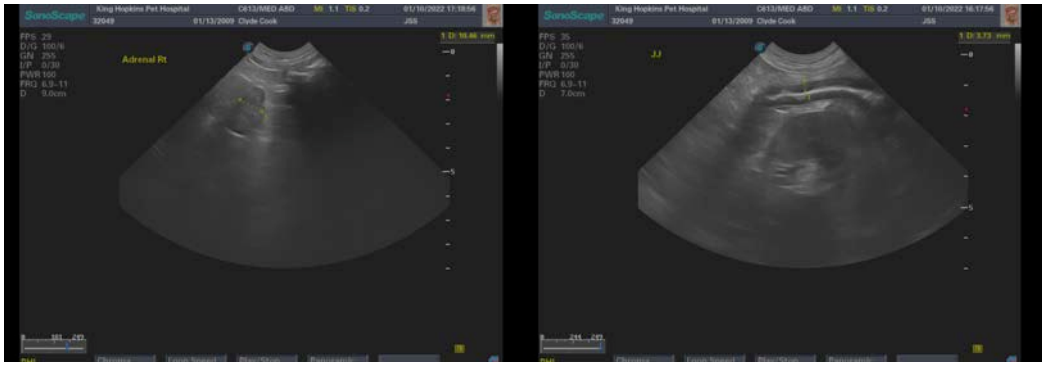
- Prominent mesenteric lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The ultrasound findings on today's scan would be fairly typical for a new ketotic diabetic. I suspect there is a diabetic hepatopathy and mild pancreatitis present. Recommend a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreas and small intestine. Additionally, recommend a urinalysis and culture and blood pressure evaluation.

The adrenal glands are borderline large in size. This could be consistent with pituitary dependent hyperadrenocorticism, but recommend first getting adequate glycemic control and then considering if adrenal function testing is clinically appropriate.

There is a very small, hypoechoic splenic nodule, and there is a larger splenic nodule/mass present, which deforms the splenic capsule. The appearance of this is somewhat concerning, even though it is not a very large mass effect. I would recommend stabilization of the diabetes and then evaluation of the splenic lesion. At this time, I would most strongly consider a splenectomy for both therapeutic and diagnostic purposes, but a fine needle aspirate could be considered.



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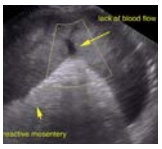
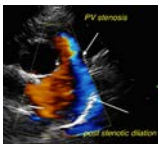
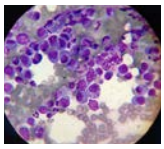
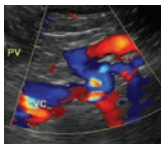

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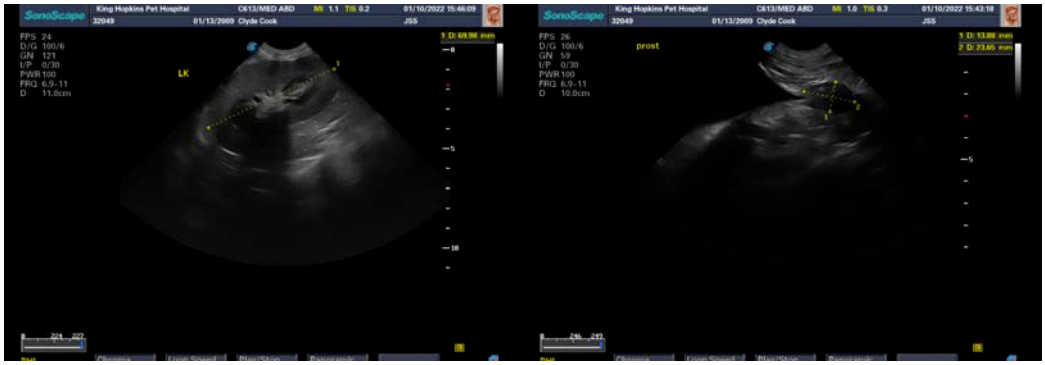


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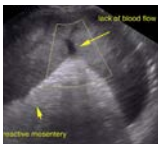
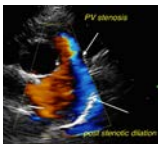
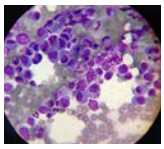
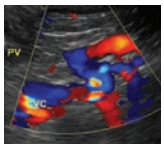

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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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