



PATIENT	PRESENTING CLINICAL SIGNS
Dunstyn Hamilton	History: June 11, 2022 vomiting, elevated liver values. Recovered. Asymptomatic. Added Denamarin July 7, 2022. Vomit recurred August 1, 2022 and recovered no medication. Normal liver values August 22, 2022. September 12 vomit Famotidine 20mg helped.
SPECIES	Abnormal PE/Chem/CBC/UA Results: June 11, 2022 CBC normal, ALT 355 (-68), AST 171 (-41), ALKP 296 (-92). June 22, 2022 only AST elevated 53 (-50) and TBili 1.7 (-0.9). July 6, 2022 AST stable 53 (-50), and Tbili 1.5 (-0.9). August 5, 2022 ALT 188 (-125), AST 52 (-50), TBili 1.1 (0.9). Normal Liver and CBC August 22, 2022. September 12, 2022 CBC normal, AKT 187 (-125), ALKP 484 (-212). CPL normal.
Canine	
BREED	
English Springer Spaniel	
SEX	
Neutered male	
AGE	
7 years	
WEIGHT	
51.6 lbs	
INTERPRETED BY	
Beth Johnson, DVM DACVIM	
IMAGING PERFORMED BY	
Dr. Brenner	
HOSPITAL NAME	
Riverside AC	
REFERRING VET	
Dr. Brenner	
INVOICE	
32917	
DATE	
9/15/22	

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate (neutered) is normal in size, echotexture and echogenicity for a neutered male.

Left kidney is normal is size (5.74 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. A hyperechoic band parallel to the corticomedullary border is present. There is no evidence of pyelectasia, mineral or infarcts observed.

Right kidney is normal is size (7.03 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. A hyperechoic band parallel to the corticomedullary border is present. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

Left adrenal gland is normal in size (2.9 cm long, 0.51 at cranial pole and 0.52 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (1.76 cm long, 0.49 cm at cranial pole and 0.54 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively large in size with a mildly swollen but smooth capsule. Parenchyma is normal and homogenous in echogenicity and echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than



PATIENT	normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.
Dunstyn Hamilton	
SPECIES	Gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.
Canine	
BREED	<i>Gastrointestinal</i>
English Springer Spaniel	The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.
SEX	The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.
Neutered male	The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.
AGE	<i>Pancreas</i>
7 years	Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.
WEIGHT	
51.6 lbs	
INTERPRETED BY	<i>Free Abdomen</i>
Beth Johnson, DVM DACVIM	There is no evidence of free peritoneal effusion noted in these images. There is no apparent lymphadenopathy noted in these images.
IMAGING PERFORMED BY	ULTRASONOGRAPHIC FINDINGS
Dr. Brenner	Primary Findings
HOSPITAL NAME	<ul style="list-style-type: none"> • Hypersplenism – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered. • Hyperechoic hepatomegaly – This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely. • Chronic active pancreatitis or potentially resolving pancreatitis.
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Spaniel

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Secondary Findings

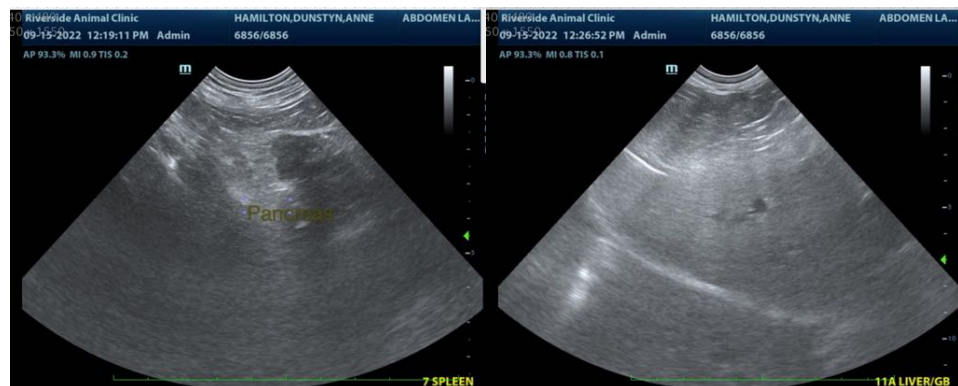
- **Medullary rim sign** - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Differentials for this patient's intermittent gastrointestinal signs and intermittently high liver enzymes include chronic smoldering pancreatitis or gastroenteritis/gastrointestinal disease and/or chronic reactive hepatopathy or less likely infiltrative disease. Therefore, recommendations include:

1. A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.
2. A baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.
3. Testing for Leptospirosis is recommended.
4. Bile acids should be considered at a time when bilirubin is normal.
5. FNA of the spleen and liver can be considered if the patient's coagulation status is appropriate to more definitively rule out less likely, but possible infiltrative disease.

In the meantime, empirical deworming with a 5 day course of Panacur is recommended as is transition to either a low-fat diet as a first trial and error approach or a hydrolyzed protein diet if a low-fat protein diet does not help reduce clinical signs after a few weeks.





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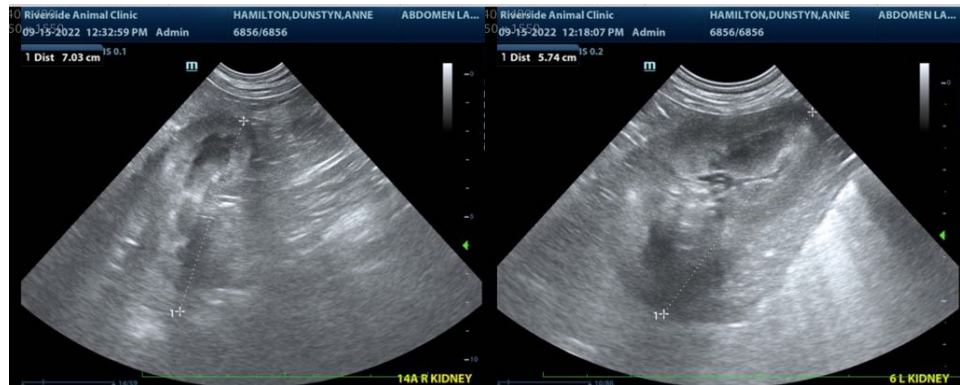
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM DACVIM

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