



PATIENT	PRESENTING CLINICAL SIGNS
Cooper Keepports	Several day history of inappetence. Cooper presented to emergency clinic over the weekend which showed elevated liver enzymes. No other recent history or medical notes from emergency visit were received prior to ultrasound exam.
SPECIES	
Canine	Abnormal PE/Chem/CBC/UA Results: AST 142 (15-66) ALT 806 (12-118) ALP 315 (5-131) TP 8.2 (5.0-7.4) Phosphorous 2.4 (2.5-6.0)
BREED	
Welsh Corgi	ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN
SEX	Urinary System
Neutered Male	The urinary bladder is moderately 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.
AGE	Prostate is normal in size, echotexture and echogenicity for a neutered male.
6 Years	The right kidney is normal in size (5.57 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.
WEIGHT	The left kidney is normal in size (5.57 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.
31 Pounds	
INTERPRETED BY	Adrenal Glands
Beth Johnson, DVM DACVIM	The right adrenal gland is normal in size (0.39 cm at the cranial pole and 0.47 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.
IMAGING PERFORMED BY	The left adrenal gland is normal in size (0.31 cm at the cranial pole and 0.42 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.
Dr. Jack Reese	
HOSPITAL NAME	Spleen
Willow Run VC	The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.
REFERRING VET	Liver
Dr. Jack Reese	Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.
INVOICE	
44138	
DATE	The 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.
1/11/23	Gastrointestinal
	The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.



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Cooper Keeports

SPECIES

Canine

BREED

Welsh Corgi

SEX

Neutered Male

AGE

6 Years

WEIGHT

31 Pounds

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DACVIM

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The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). 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.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

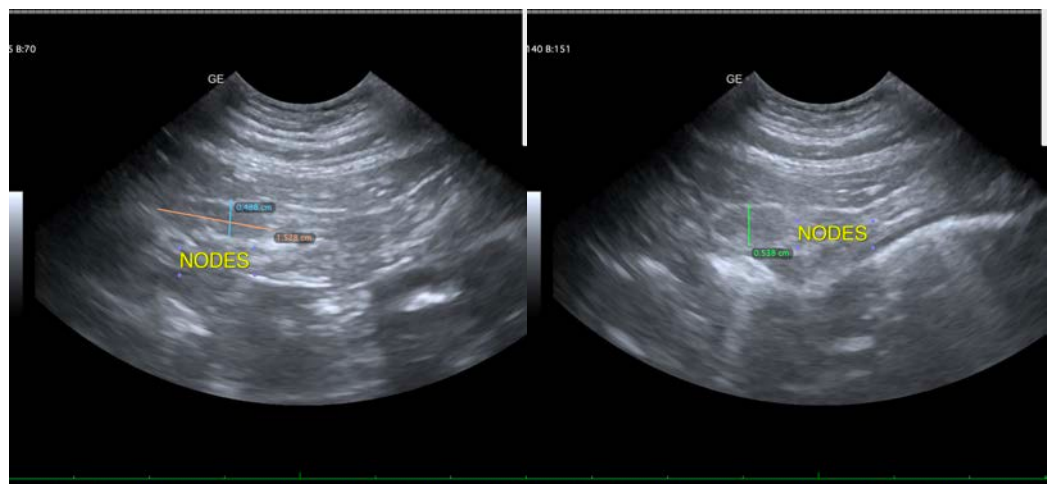
ULTRASONOGRAPHIC FINDINGS

- **Heterogenous Liver** – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- **Reactive mesenteric lymph nodes** – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Testing for Leptospirosis is recommended. Bile acids are recommended, if tbili is not increased. An empirical course of antibiotics and hepatic nutraceuticals may be tried empirically; however, ultimately, tissue sampling is likely warranted. FNA of the liver can be performed to assess inflammatory cell type, rule in/out round cell neoplasia, etc. If round cell neoplasia is not diagnosed, a liver biopsy (including copper level assessment) may be required to definitively diagnose the underlying hepatopathy.

Additionally, empirical deworming with a 5-day course of Panacur is recommended.





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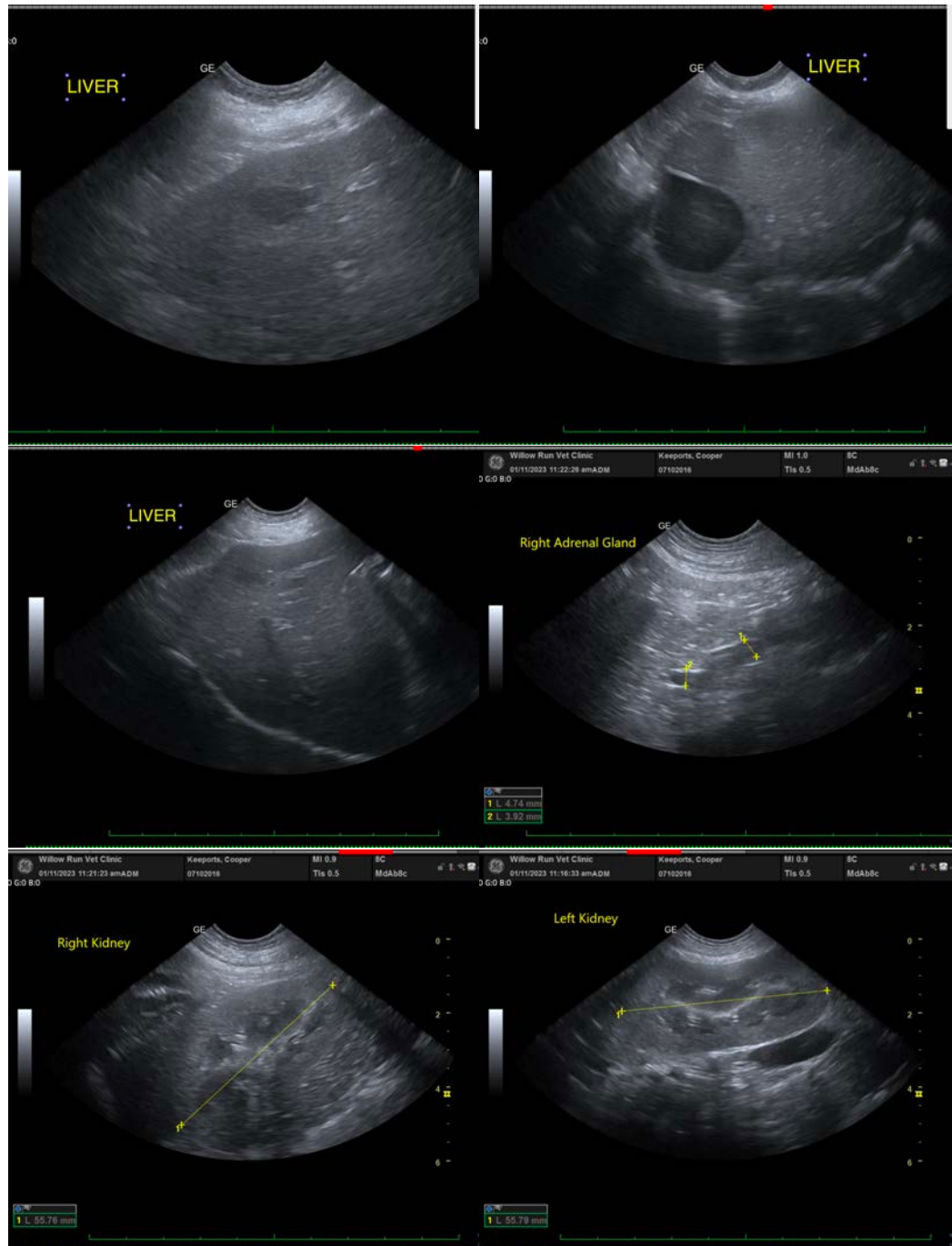
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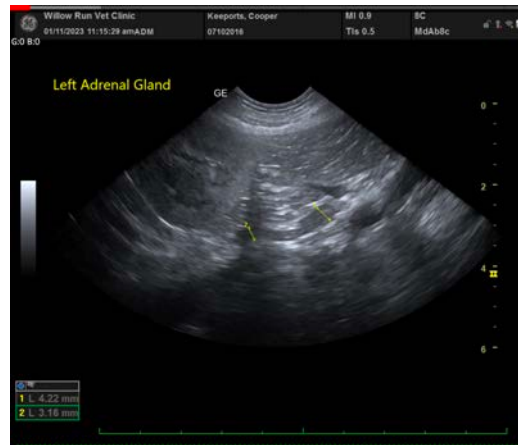
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Beth.Johnson@sonopath.com