



PATIENT

Louie V Divaينو

PRESENTING CLINICAL SIGNS

History: Chronically, marked increased ALP, low BUN, elevated bile acids, high ACTH stim. PU/PD/polyphagia.

Abnormal PE/Chem/CBC/UA Results: ALP 1121, ALT 147, BUN 17. Bile acids: Pre - 85 / Post 87.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

BREED

Maltese

The **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection.

Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present.

SEX

The region of the trigone and visible pelvic urethra were normal.

Neutered male

AGE

10 years

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex. Pyelectasia was noted in both kidneys.

WEIGHT

9.7 lbs

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 1.47 x 0.89 cm at the cranial pole and 0.56 cm at the caudal pole. The left adrenal gland measured 1.64 x 0.55 cm at the cranial pole and 0.67 cm at the caudal pole.

INTERPRETED BY

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

IMAGING PERFORMED BY

Kelly Vazquez, CVT

HOSPITAL NAME

Cresskill AH

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

REFERRING VET

Dr. Khodari

Liver

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. The portal vein to vena cava ratio was 1:1. Branching of the portal vein appeared to be normal. Intrahepatic vascularity appeared normal. The pancreatoduodenal vein was followed to the portal vein. There was no evidence of shunting. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be

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PATIENT	paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.
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SPECIES	<i>Gastrointestinal</i>
Canine	The stomach in this patient presented polypoid proliferative luminal tissue that extended for approximately 3.0 x 2.0 cm and appeared to be deriving from the mucosal layer. This occupied much of the gastric lumen. The proliferative changes continued into the gastric fundus. The submucosal layer, muscularis and serosa appeared to be unaffected throughout the stomach.
BREED	
Maltese	
SEX	<i>Pancreas</i>
Neutered male	The pancreas revealed hyperechoic, mixed, echogenic remodeling. The patient likely has a history of pancreatitis.
AGE	ULTRASONOGRAPHIC FINDINGS
10 years	Pancreatic remodeling.
WEIGHT	Hepatic remodeling. Portal hypoplasia/microvascular dysplasia is likely playing a role in the bile acid elevations.
9.7 lbs	Gastric lesion. Differentials include epithelioma/proliferative mucosal tissue. Carcinoma is less likely.
INTERPRETED BY	Moderate degenerative renal changes with pyelectasia.
Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com	<u>INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS</u>
IMAGING PERFORMED BY	There was no obvious evidence of intrahepatic or extrahepatic shunting. Epithelomatous type gastric presentation. Endoscopy is warranted or gastrotomy can be considered with biopsies or debridement of the mucosal hypertrophy noted in the stomach with liver biopsy at that time. Urinalysis and assessment for UTI is indicated. The kidneys appear moderately compromised.
Kelly Vazquez, CVT	Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy
HOSPITAL NAME	Royal Canin Hepatic Support diet or Hills L/D, Metronidazole (7.5 mg/kg PO bid) over the next 14 days, Lactulose (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a high-quality protein supplement of minor amount of yogurt or cheddar cheese. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAME and nutraceuticals as needed. Ursodiol (10-15 mg/kg p.o. q24h) can be considered as hepatoprotectant and to enhance bile flow. Zinc serum level keep between 200–500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.
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Maltese

SEX

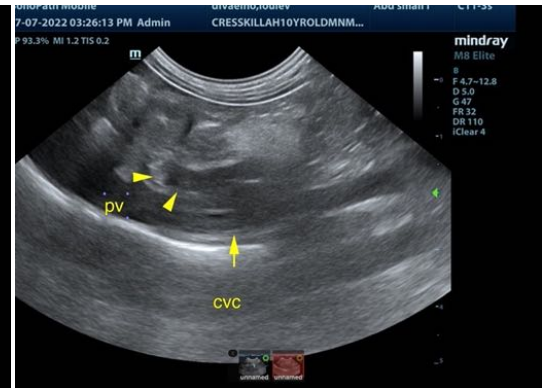
Neutered male

AGE

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WEIGHT

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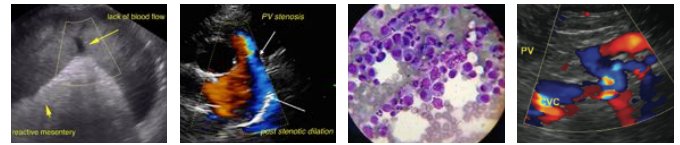
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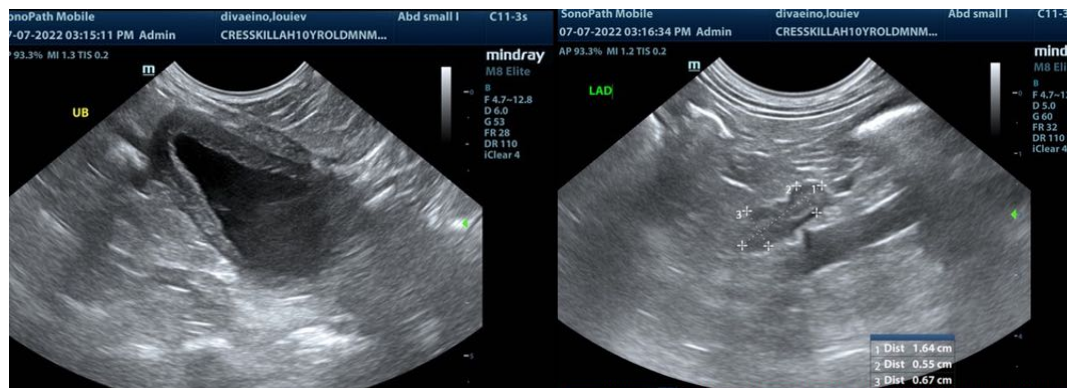
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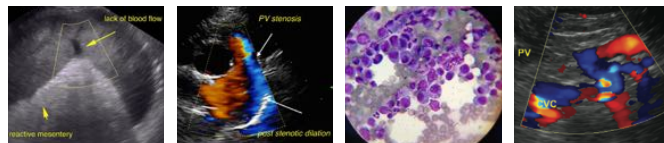


The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

Info@SonoPath.com



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