

**PATIENT PRESENTING CLINICAL SIGNS**

Percy Comstock History of mitral valve disease. Elevated liver enzymes. Vomiting over the past 36 hrs.  
Currently on: Benazepril 5 BID, Lasix 20 BID, Spironolactone 37.5 BID, Pimobendan 5 BID

**SPECIES**  
ALP 571, ALT 464, TBILI 3.5, Amylase 677

Canine

**BREED ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Sheltie *Urinary System***

**SEX**  
MN The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

**AGE**  
2015 The area of the residual prostate was free of pathology.

The area of the aortic trifurcation was free of pathology.

**WEIGHT**  
36.1 Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 5.7 cm in length. The right kidney measured 5.6 cm in length.

**INTERPRETED BY *Adrenal Glands***

R. McKenzie Daniel, DVM, DABVP (Canine and Feline) The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.4 cm length x 0.53 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.2 cm length x 0.53 cm width at the caudal pole.

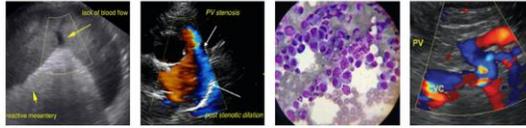
**IMAGING PERFORMED BY**  
Rebekah Jakum, CVT ARDMS/RVT

**HOSPITAL NAME**  
Maple Hills VH ***Spleen***  
The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

**REFERRING VET *Liver/ Gallbladder***

Dr. Eckman The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with primarily anechoic luminal content. The cystic and common bile ducts were normal.

**INVOICE**  
14714  
**DATE**  
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**PATIENT** ***Gastrointestinal***

Percy Comstock The stomach exhibited mild gas distention. The visualized gastric walls were sonographically normal. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material. The ventral gastric body wall width measured 0.30 cm.

**SPECIES**

Canine The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material. The duodenum wall measured 0.37 cm width.

**BREED**

Sheltie Normal visible colon wall layers were present with apparent formed feces in lumen.

***Pancreas***

**SEX**

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

MN

***Free Abdomen***

**AGE**

No overt lymphadenopathy or peritoneal effusion was present.

2015

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

36.1

- Hepatopathy - benign
- Sonographically unremarkable gallbladder and common bile duct
- Sonographically unremarkable gastrointestinal tract
- Mild heterogeneous pancreas

**INTERPRETED BY**

R. McKenzie Daniel,  
 DVM, DABVP  
 (Canine and Feline)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The overall liver was nonspecific exhibiting generalized enlargement yet maintained uniform parenchyma. Considerations may include vacuolar hepatopathy, inflammatory / immune mediated disease, toxic hepatopathy i.e., copper, or other hepatopathy without evidence of neoplastic criteria.

**IMAGING**

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 ARDMS/RVT

Ultrasound-guided hepatic FNA for screening cytology to primarily assess for evidence of Inflammatory cells is recommended. Hepatosupportive medications Including Denamarin and Ursodiol may prove beneficial. A hepatic core surgical biopsy for histopathology is likely required for a definitive diagnosis.

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**REFERRING VET**

Dr. Eckman

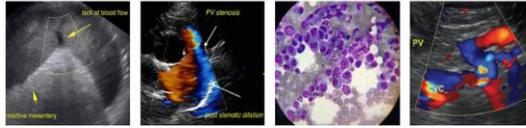
Potential for low-grade metabolic or inflammatory gastroenteropathy or less likely potential for low-grade to chronic pancreatitis Is possible. Further assessment may include Spec cPL or if progressive gastrointestinal signs, or evidence of weight loss, a full GI panel to include PLI/TLI/Cobalamin/Folate. As-needed GI support should prove beneficial.

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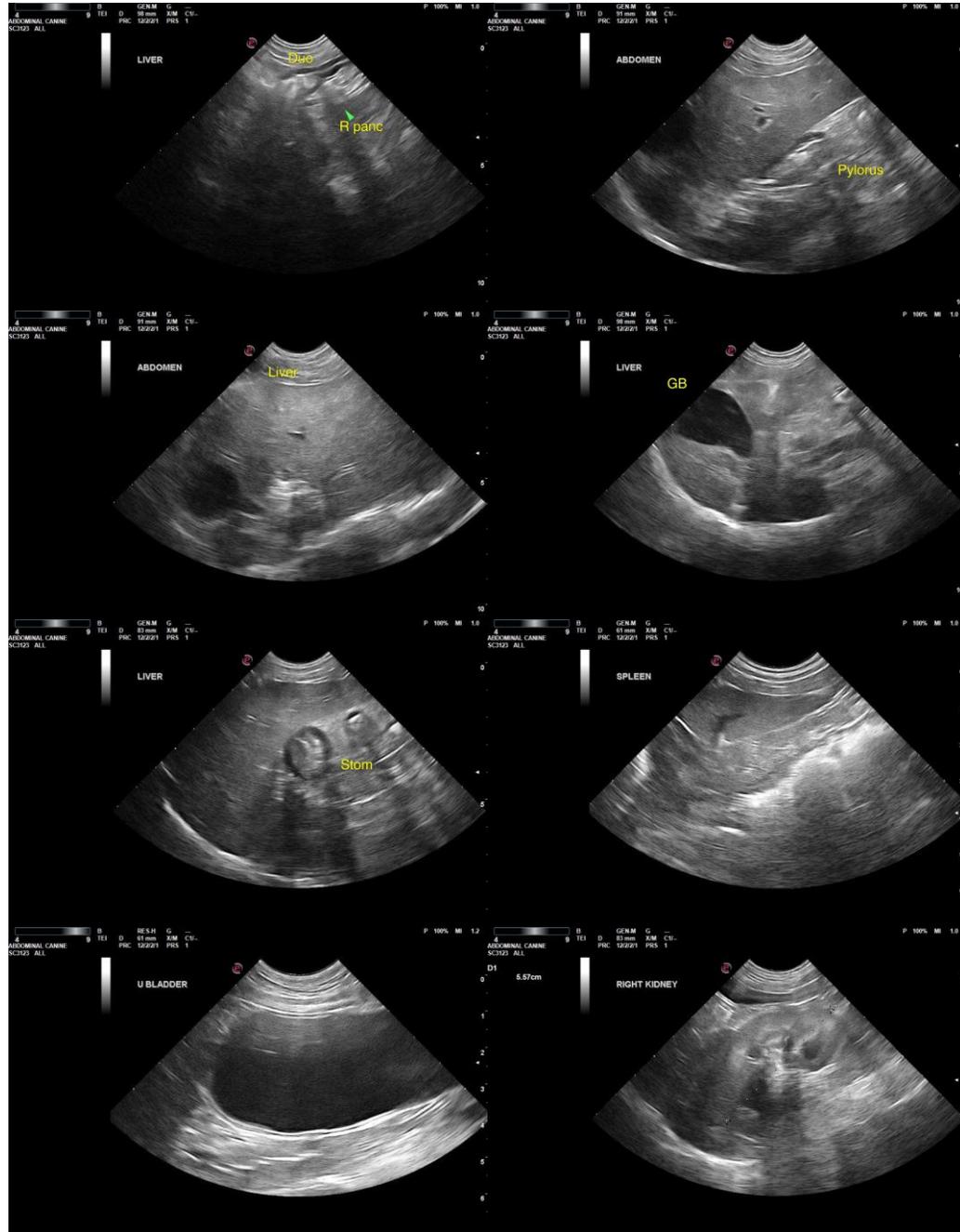
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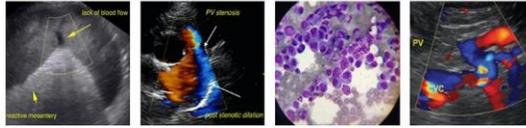
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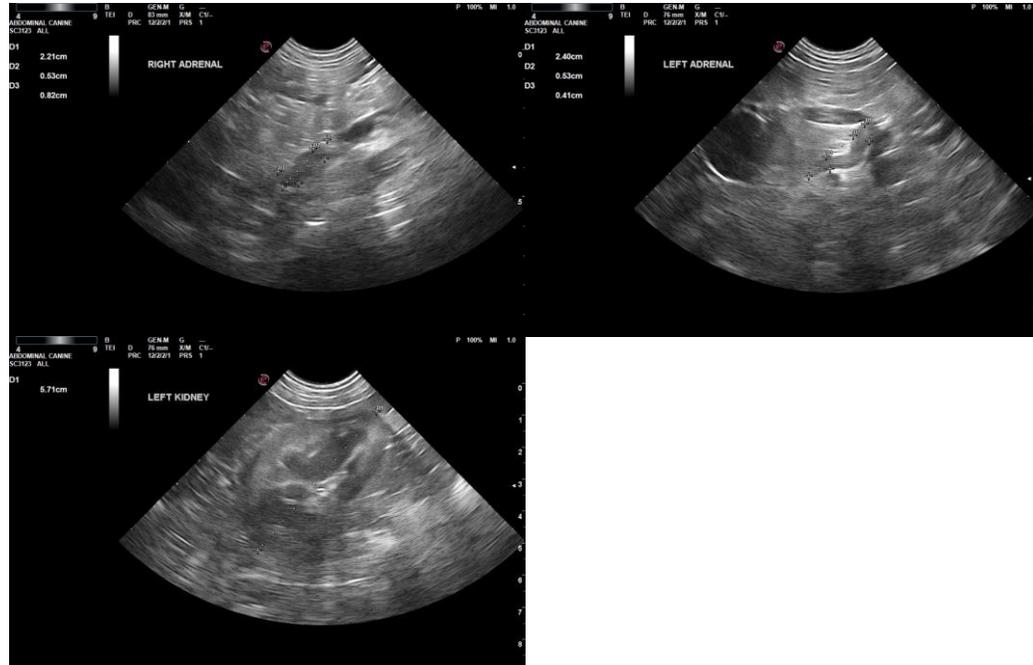
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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