



**PATIENT PRESENTING CLINICAL SIGNS**

Austin Hook Several week duration of lethargy, pendulous abdomen for 1 week, pale mucous membranes, short of breath.

**SPECIES** Medication: Lasix 75mg BID

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**BREED**

Bulldog Mix

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra 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 were noted.

**SEX**

MN

**AGE**

2014

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 6.5 cm in length. The right kidney measured 7.3 cm in length.

The area of the iliac trifurcation was free of pathology including no evidence of medial, iliac or sublumbar lymphadenopathy or masses.

**WEIGHT**

86

The area of the residual prostate appeared normal and free of pathology.

**Adrenal Glands**

**INTERPRETED BY**

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 0.74 cm width at the caudal pole and 2.6 cm length. The right adrenal gland was not definitively visualized.

**Spleen**

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

The spleen exhibited mild medial folding and 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.

**HOSPITAL NAME**

Littlestown VH

**Liver/Gallbladder**

The liver presented enlarged in size with symmetrical yet swollen contour. The parenchyma was non-homogenous to mildly nodular with a solitary thin walled cyst in the ventrocaudal liver. The hepatic vasculature was dilated in appearance, most notable at the level of the hepatic vein / caudal vena cava junction, without evidence of thrombosis. The gallbladder was non-distended in size with thin walls and mild echogenic sediment. The cystic and common bile ducts were normal.

**REFERRING VET**

Kubala

**Gastrointestinal**

**INVOICE**

14200ag

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

**DATE**  
 06/24/2023

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.

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



**PATIENT** *Pancreas*

Austin Hook The right pancreatic limb was mild to variably prominent in size with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

**SPECIES** *Free Abdomen*

Canine Generalized mild hyperechoic omentum was present.  
Moderate volume anechoic peritoneal effusion was present.

**BREED**

Bulldog Mix Brief sonographic assessment of the heart revealed left and right heart chamber enlargement with LV systolic dysfunction and subjective significant tachyarrhythmia. The left sided chamber enlargement predisposes to left sided congestion and pulmonary edema while the right sided enlargement predisposes to right sided failure and hepatic congestion. No evidence of significant pericardial effusion or overt cardiac tumors.

**SEX**

MN

**AGE**

2014

**WEIGHT**

86

**ULTRASONOGRAPHIC FINDINGS**

- Enlarged congested non-homogenous/nodular liver.
- Normal spleen with mild folding.
- Heterogenous mildly prominent right pancreas.
- Sonographically unremarkable GI tract.
- Moderate volume peritoneal effusion and generalized increased omental echogenicity.
- Cardiomyopathy with biatrial enlargement and significant tachyarrhythmia.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The significant cardiomyopathy and tachyarrhythmia are consistent with the finding of hepatic congestion and at least a contributing factor/primary cause to the abdominal ascites. However, multifactorial disease such as neoplasia given hepatic parenchymal changes is also possible. Pathology review and cytology of the ascites +/- C/S if clinically indicated is suggested.

Assuming normal clotting status and using a 25g needle, a hepatic FNA for screening cytology is warranted for further assessment. A full echocardiogram and ECG would be ideal.

Pimobendan 0.3 mg/kg PO BID, combination Lasix/spironolactone both 1-2 mg/kg PO BID pending ECG assessment with potential rate control therapy would be appropriate. An extremely guarded prognosis is indicated.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

**HOSPITAL NAME**

Littlestown VH

**REFERRING VET**

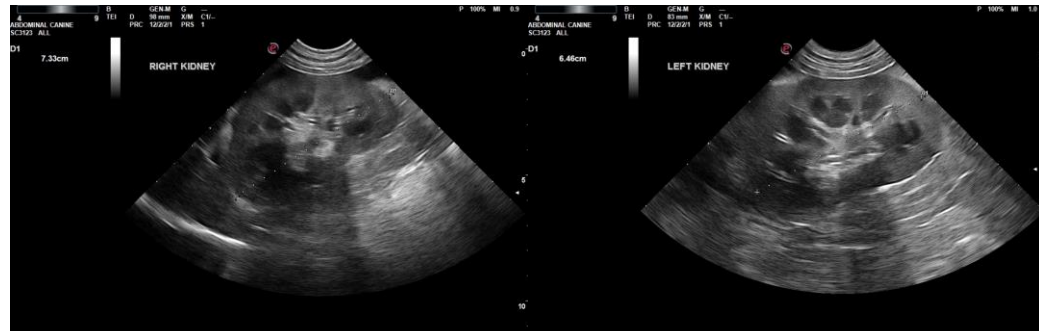
Kubala

**INVOICE**

14200ag

**DATE**

06/24/2023





**PATIENT**

Austin Hook

**SPECIES**

Canine

**BREED**

Bulldog Mix

**SEX**

MN

**AGE**

2014

**WEIGHT**

86

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

**HOSPITAL NAME**

Littlestown VH

**REFERRING VET**

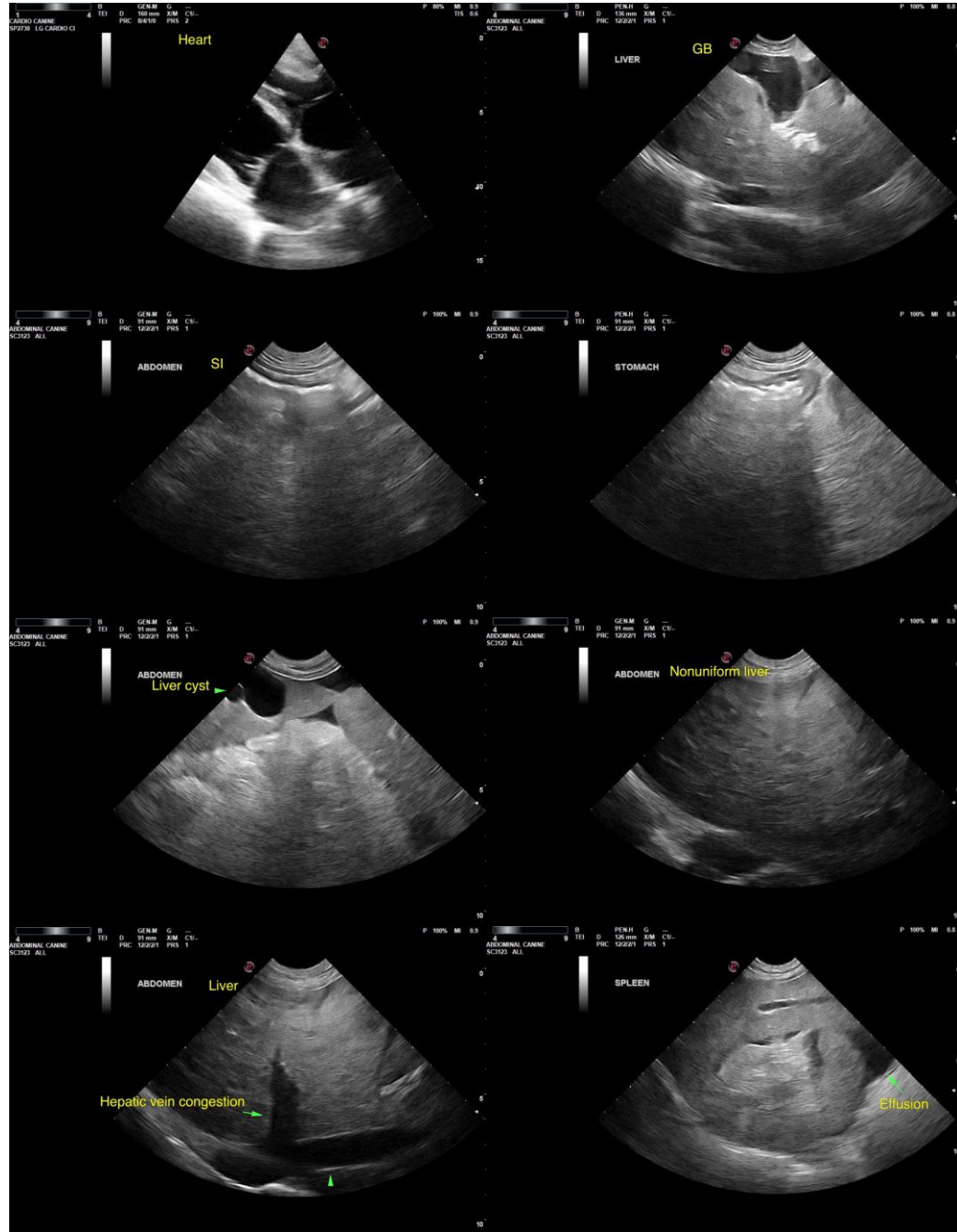
Kubala

**INVOICE**

14200ag

**DATE**

06/24/2023



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.

R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)  
[info@sonopath.com](mailto:info@sonopath.com)



**PATIENT**

Austin Hook

**SPECIES**

Canine

**BREED**

Bulldog Mix

**SEX**

MN

**AGE**

2014

**WEIGHT**

86

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

**HOSPITAL NAME**

Littlestown VH

**REFERRING VET**

Kubala

**INVOICE**

14200ag

**DATE**

06/24/2023