



**PATIENT**

Sandy Keller

**SPECIES**

Canine

**BREED**

Shetland Sheepdog

**SEX**

Spayed Female

**AGE**

5 Years

**WEIGHT**

36 Pounds

**INTERPRETED BY**

Tam Mengine, DVM,  
DABVP (canine/feline  
practice)

**IMAGING  
PERFORMED BY**

Dr. Tam Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

Dr. Tam Mengine

**INVOICE**

41759

**DATE**

9/29/22

**PRESENTING CLINICAL SIGNS**

Annual monitoring of liver U/S due to chronic marked elevation in ALP and slight elevation in ALT. Patient is asymptomatic & on ursodiol and denamarin. Bile acids normal last year. 9/22 ALT 178 (vs 217 in 2021), ALP 2835 (vs 1602 in 2021)

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder is moderately distended with anechoic urine, and no luminal sediment is present. The ureteral papillae, trigone and pelvic urethra (visible to 2.0 cm) are of normal appearance, and the ureters are not visible (normal). No masses, calculi or mucosal irregularities are noted.

The kidneys are of normal size and shape and exhibit appropriate corticomedullary differentiation with a normal 1:3 cortex to medulla ratio. There is no evidence of nephrolithiasis, mineralization, pyelectasia, cystic change or hydronephrosis. The proximal ureter is not visible (normal). The left kidney measures 5.0 cm. The right kidney measures 5.3 cm.

*Adrenal Glands*

The adrenal glands are both identified in their normal locations. They are normal in size and shape with appropriate parenchymal echogenicity and normal phrenic vasculature. The left adrenal gland measures 6.6 mm cranially and 5.6 mm caudally. The right adrenal gland measures 6.2 mm cranially and 5.7 mm caudally.

*Spleen*

The spleen is of appropriate size and has a normal, homogenous parenchyma with a smooth, continuous capsular surface. The splenic vasculature is normal with no evidence of congestion or thrombosis, and blood flow through the splenic hilus appears normal.

*Liver*

The liver is diffusely hyperechoic and subjectively enlarged. The portal and hepatic vasculature are of normal size and appearance with no evidence of congestion or thrombosis.

The gallbladder is moderately distended with anechoic contents and a small amount of freely-moveable echogenic sludge. The wall was thin and continuous with no focal lesions. The cystic and common bile ducts are normal / not visible.

*Gastrointestinal*

The stomach is empty. The gastric wall is normal in thickness (3.1 mm) with normal deviations due to rugal folds, and exhibits appropriate wall layering. The pylorus is of normal appearance.

The visualized portions of the duodenum, jejunum, and ileum are of normal thickness with intact wall layering that exhibits the appropriate 1:3 muscularis to mucosa ratio. Jejunum wall measures 4.3 mm. Duodenum wall measures 4.6 mm. Intestinal motility appears normal.

The visible portions of the colon are of normal thickness (2.0 mm) with intact wall layering. The ileocecal junction is visualized and normal.



**PATIENT**

*Pancreas*

Sandy Keller

The areas of the limbs and body of the pancreas are isoechoic to the surrounding mesenteric fat, with normal capsular appearance. There is no evidence of peripancreatic inflammation. The pancreatic duct appears normal.

**SPECIES**

Canine

*Free Abdomen*

There is no evidence of free fluid within the peritoneal cavity. The omentum and intra-abdominal fat are of appropriate echogenicity. Enlarged abdominal lymph nodes are not observed. The aortic trifurcation has normal blood flow with no evidence of thrombosis.

**BREED**

Shetland Sheepdog

**ULTRASONOGRAPHIC FINDINGS**

- Stable changes to the liver as compared to ultrasound from 2021

**SEX**

Spayed Female

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The changes in the liver are non-specific and could be attributed to endocrine disease, other vacuolar hepatopathies, reactive hepatopathy, storage hepatopathy, chronic infectious or inflammatory disease (including leptospirosis), hepatic lipidosis, or less likely neoplasia. Ultrasound-guided or laparoscopic biopsies would be needed for definitive diagnosis. Recommendations include:

- ❖ screening for diabetes mellitus and hyperlipidemia if not already performed
- ❖ testing for Cushing's disease is recommended only if clinical signs support the diagnosis
- ❖ bile acid testing is recommended to further assess severity of hepatic disease - if elevated then liver biopsies should be considered
- ❖ if bile acids are normal, but the ALT is increased, then initiation of liver support therapies such as SAME, Vitamin E and ursodiol, along with serial monitoring of liver enzyme levels every 2-3 months, could be initiated.

**INTERPRETED BY**

Tam Mengine, DVM,  
DABVP (canine/feline  
practice)

**IMAGING PERFORMED BY**

Dr. Tam Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

Dr. Tam Mengine

**INVOICE**

41759

**DATE**

9/29/22





**PATIENT**

Sandy Keller

**SPECIES**

Canine

**BREED**

Shetland Sheepdog

**SEX**

Spayed Female

**AGE**

5 Years

**WEIGHT**

36 Pounds

**INTERPRETED BY**

Tam Mengine, DVM,  
DABVP (canine/feline  
practice)

**IMAGING  
PERFORMED BY**

Dr. Tam Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

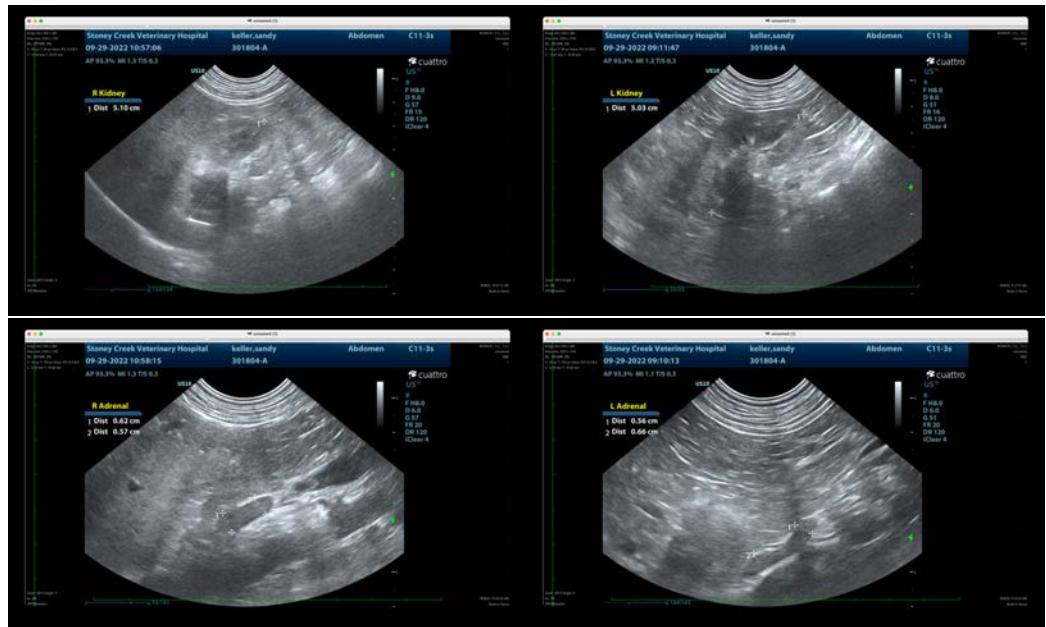
Dr. Tam Mengine

**INVOICE**

41759

**DATE**

9/29/22



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.

**Tam Mengine, DVM, DABVP (canine/feline practice)**

info@SonoPath.com