



**PATIENT**

Zoey Clarke

**SPECIES**

Canine

**BREED**

Shih Tzu X

**SEX**

Spayed Female

**AGE**

11 Years

**WEIGHT**

8.3 kg

**INTERPRETED BY**

Kathleen Sennello  
DVM, MS, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

BPH Stoney Creek

**REFERRING VET**

Dr. Salib

**INVOICE**

26525

**DATE**

10/21/21

**PRESENTING CLINICAL SIGNS**

Abdomen bloated and dog is shivering. Does not seem painful. O fed potatoes last week then she seemed bloated and did not eat for 2 days. Once offered canned food two days later, she resumed eating. No vomiting, diarrhea, still eating and drinking today. Normal energy. No meds. Clear fluid drawn off.

Abnormal PE/Chem/CBC/UA Results: Mild regenerative anemia. HCT 32.8, highly elevated ALT and ALPK and T bili. Rest NSF Xrays showed distention and poor serosal detail, limited organ assessment possible. Gas in stomach. Normal cardiac structure although positioning was off.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with minimal primarily suspended echogenic debris present. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or calculi. Echogenic debris of this type can be associated with small crystals, cellular debris and proteinaceous debris.

The right kidney has a normal shape and size (4.3 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The left kidney has a normal shape and size (3.81 cm) with non-obstructive nephroliths. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.42 cm. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

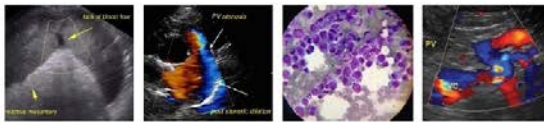
**Spleen**

The spleen echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The spleen is subjectively normal in size with no focal parenchymal abnormalities. The blood flow through the hilus and splenic parenchyma appears normal.

**Liver**

The liver is small in size and decreased in echogenicity with irregular peripheral margins. The parenchyma is diffusely nodular and heterogeneous. The visible portions of the vasculature and biliary tract appear normal. No large mass or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.



**PATIENT**

Zoey Clarke

**SPECIES**

Canine

**BREED**

Shih Tzu X

**SEX**

Spayed Female

**AGE**

11 Years

**WEIGHT**

8.3 kg

**INTERPRETED BY**

Kathleen Sennello  
DVM, MS, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

BPH Stoney Creek

**REFERRING VET**

Dr. Salib

**INVOICE**

26525

**DATE**

10/21/21

**Gastrointestinal**

The stomach appears contains minimal luminal contents. It measures at a normal thickness of XX cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

**Pancreas**

The area of the pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

**Free Abdomen**

A large amount of anechoic free fluid is present. No mesenteric lymphadenopathy. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is generally of increased echogenicity.

**PRIMARY FINDINGS**

- Small nodular liver – concerning for regenerative nodules in a cirrhotic liver. Other differentials are possible.
- Large amount of free abdominal fluid – recommend fluid analysis and cytology. Suspect this is a modified transudate secondary to portal hypertension.

**SECONDARY FINDINGS**

- Non-obstructive nephroliths in both kidneys – The hyperechoic mineralized foci observed at the corticomedullary junction of the left/right kidney are consistent with small, non-obstructive nephroliths.
- Occasional small amounts of echogenic debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The liver is very small and appears contracted and nodular. This is concerning for possible cirrhotic change due to previous or chronic liver injury. Options moving forward include more aggressive diagnostic including a CT scan with contrast and a liver biopsy. I typically recommend a surgical biopsy in these situations due to the risk of hemorrhage with the abdominal fluid present, etc., or a more conservative approach, which includes supportive care, antibiotics, Ursodiol +/- an anti-inflammatory dose of steroids to be used with extreme caution due to the risk for gastric ulceration. Recommend 3-view thoracic radiographs to look for signs of right-sided heart enlargement and intrathoracic disease.



**PATIENT**

Zoey Clarke

**SPECIES**

Canine

**BREED**

Shih Tzu X

**SEX**

Spayed Female

**AGE**

11 Years

**WEIGHT**

8.3 kg

**INTERPRETED BY**

Kathleen Sennello  
DVM, MS, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

BPH Stoney Creek

**REFERRING VET**

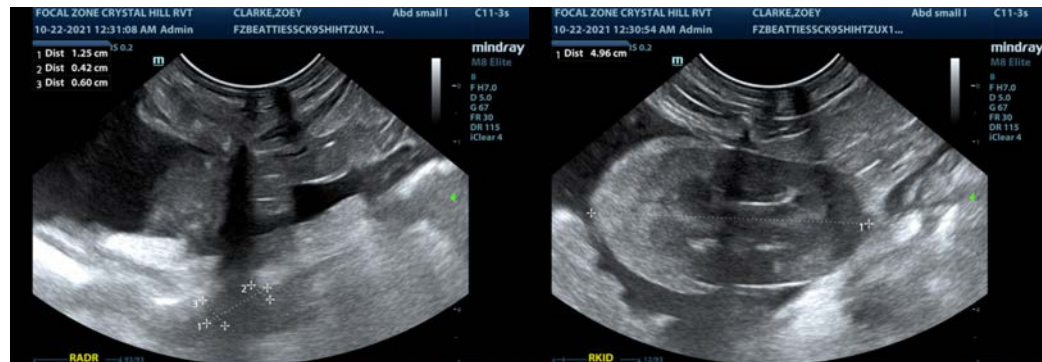
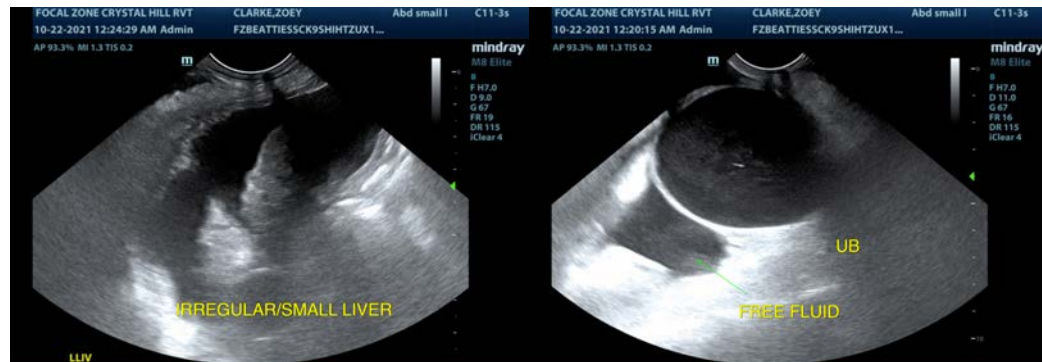
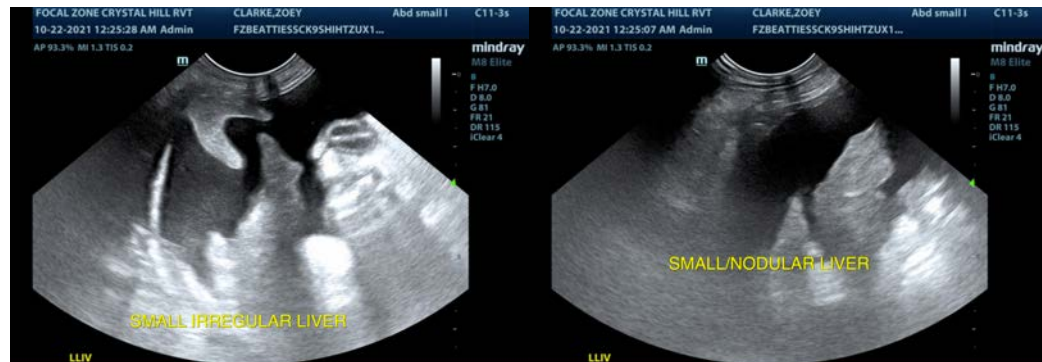
Dr. Salib

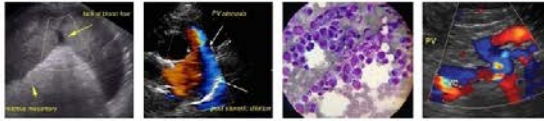
**INVOICE**

26525

**DATE**

10/21/21





**PATIENT**

Zoey Clarke

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

**SPECIES**

Canine

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.

**BREED**

Shih Tzu X

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)  
info@sonopath.com

**SEX**

Spayed Female

**AGE**

11 Years

**WEIGHT**

8.3 kg

**INTERPRETED BY**

Kathleen Sennello  
DVM, MS, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

**IMAGING  
PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

BPH Stoney Creek

**REFERRING VET**

Dr. Salib

**INVOICE**

26525

**DATE**

10/21/21