



**PATIENT PRESENTING CLINICAL SIGNS**

Oliver Shaffner

History: Hx of vomiting and nausea, lethargy  
Abnormal PE/Chem/CBC/UA Results: CBC - NSF Chem - mild increase ALT; mod increase ALP; mild increase amylase, otherwise NSF cpl - abnormal x-rays: hepatomegaly and concerned about appearance of the GB

**SPECIES**

Canine

**BREED**

Shetland Sheepdog

**SEX**

Neutered male

**AGE**

11 years

**WEIGHT**

10.9 kg

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Trudeau

**HOSPITAL NAME**

Petworks VH

**REFERRING VET**

Dr. Trudeau

**INVOICE**

32760

**DATE**

9/7/22

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The left kidney measured 4.21 cm.

**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 0.95 cm at the cranial pole and 0.54 cm at the caudal pole. The left adrenal gland measured 0.84 cm at the cranial pole and 0.76 cm at the caudal pole.

**Spleen**

The **spleen** was uniformly enlarged with relatively uniform parenchyma without evidence of masses. The capsule was mildly swollen. This is most consistent with hypersplenism and reactive hyperplasia deriving from splenic white or red pulp. However, early infiltrative disease, such as lymphoma or mast cell neoplasia can, at times, present in this manner. True hypersplenism from an internal medicine standpoint causes sequestering of thrombocytes resulting in thrombocytopenia and anemia. Clinical manifestation of this phenomenon should be considered. US-guided FNA would be best in order to ensure only reactive hyperplasia is present. If clinical signs fit with potential neoplasia or mast cell disease, then Benadryl injection (1 mg/pound IM) 15 minutes prior to FNA would be recommended.

**Liver**

The **liver** was uniformly swollen. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia. The gallbladder was over distended with striating bile and a double layered wall. This is consistent with mucocele formation. Regional inflammation was also noted along the ventral apex of the gallbladder and along the apical base and neck of the gallbladder.

**Gastrointestinal**

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. The colon was mildly thickened



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without loss of mural detail. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**Pancreas**

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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Shetland Sheepdog

**ULTRASONOGRAPHIC FINDINGS**

Mildly inflamed gallbladder mucocele.  
Benign hepatopathy.  
Mild hypersplenism.

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Neutered male

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Cholecystectomy with liver biopsy and common bile duct lavage is indicated. I do not recommend medical management only in this patient. This is a surgical urgency given the inflammatory pattern around the gallbladder.

**AGE**

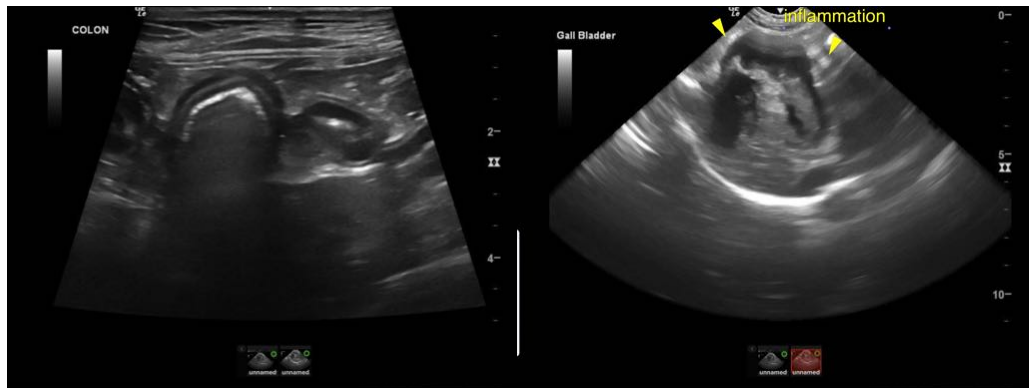
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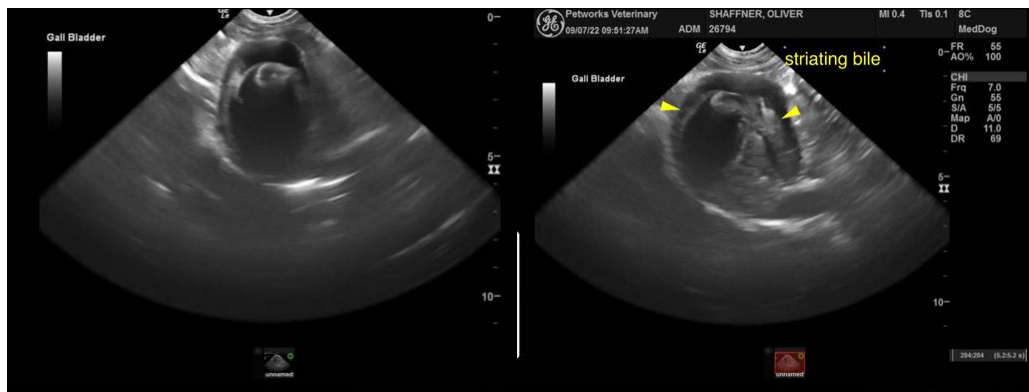


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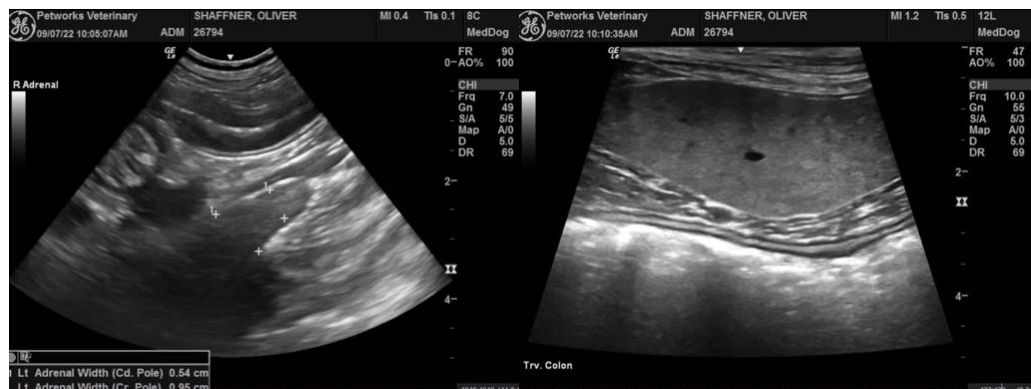
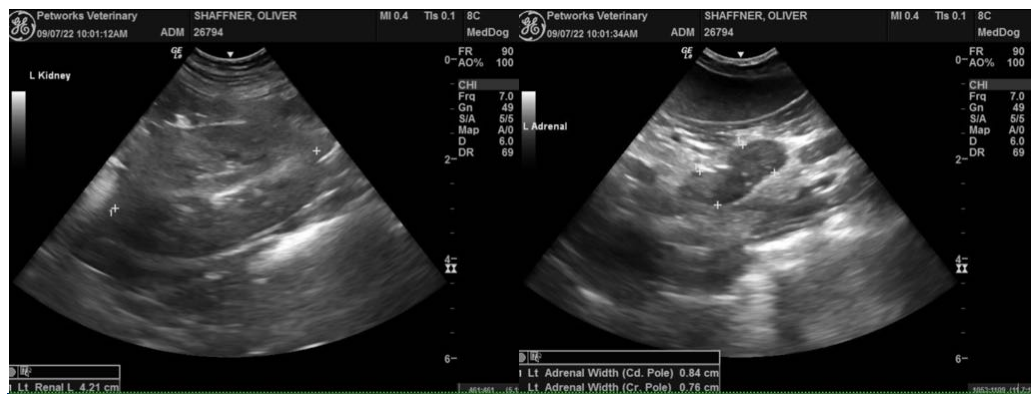
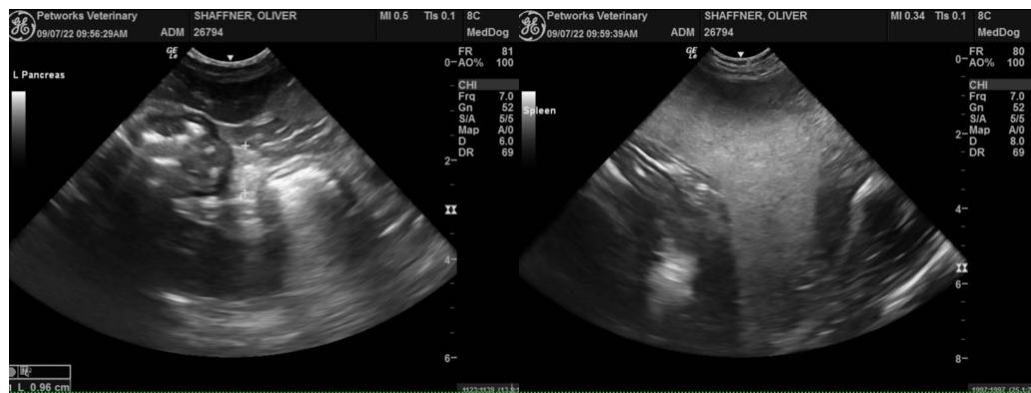
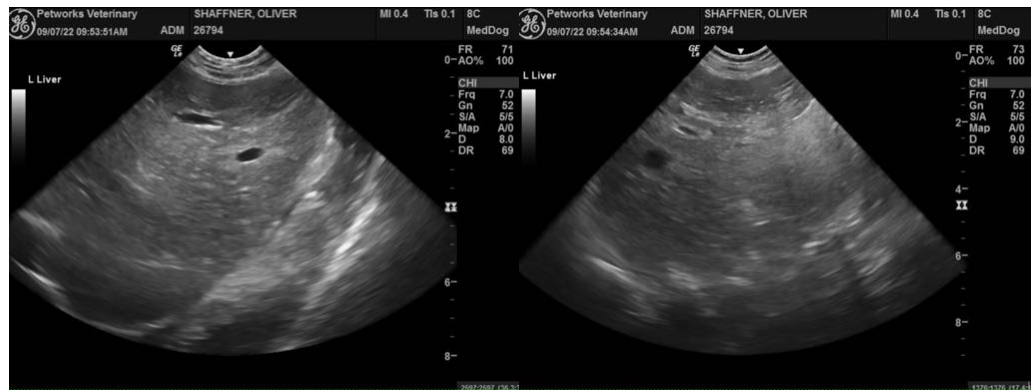
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**SPECIES**

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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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Shetland Sheepdog

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

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