



**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT**  
Emmi May

**SPECIES**  
Canine

**BREED**  
Havapoo

**SEX**  
Spayed Female

**AGE**  
10 years

**WEIGHT**  
17 lbs

**INTERPRETED BY**  
Eric Lindquist, DMV,  
DABVP, Cert. IVUSS,  
CEO of SonoPath.com

**IMAGING PERFORMED BY**  
Kelly Vazquez, CVT

**HOSPITAL NAME**  
Animal General on  
Hudson

**REFERRING VET**  
Dr. Tierney

**INVOICE**  
97716

**DATE**  
3/23/22

**History:** Patient with history of shunt repair when younger (has ameroid constrictor), presented on 3/16/22 for not eating or walking. Nothing found on PE. Patient was seen again on 3/18/22 and was walking backwards at times, appetite off. Discussed with owner possible neuro disease or abdominal pain. Trial of Cerenia and Gabapentin. 3/21/22 owner called that behavior had stopped, recommended abdominal ultrasound. 3/22/22 owner called and reported patient had a seizure. Recommended abdominal ultrasound and 3-view chest rads. Then start anticonvulsant or see neurologist. Looking for tumors.  
CBC/Chem: WNL, CPL normal.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection. Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present. The region of the trigone and visible pelvic urethra were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 4.79 cm. The left kidney measured 3.96 cm. Blood flow to the kidneys was adequate on power Doppler assessment.

**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 1.81 x 0.39 cm at the caudal pole and 0.42 cm at the cranial pole. The left adrenal gland measured 2.13 x 0.42 cm at the caudal pole and 0.38 cm at the cranial pole.

**Spleen**

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

**Liver**

The **liver** was slightly subnormal in size with increased portal markings. The portal vein to vena cava ratio was 1:1. Intrahepatic vascularity appeared to have adequate volume, normal contour and



**PATIENT**

branching. The portal vein measured 0.4 cm, vena cava measured 0.5 cm. The gallbladder revealed minor small calculi that was non-obstructive and measured up to 0.2 cm.

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**Gastrointestinal**

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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. 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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**ULTRASONOGRAPHIC FINDINGS**

Mild microhepatica.

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Mild hepatic remodeling.

Otherwise, stable abdomen.

**INTERPRETED BY**

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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

There are no complications to prior shunt correction. I do not feel that the liver is a primary issue in this patient unless bile acids are significantly elevated. Given the patient's history CT evaluation is warranted. CT of the CNS +/- spine is indicated depending on clinical exam.

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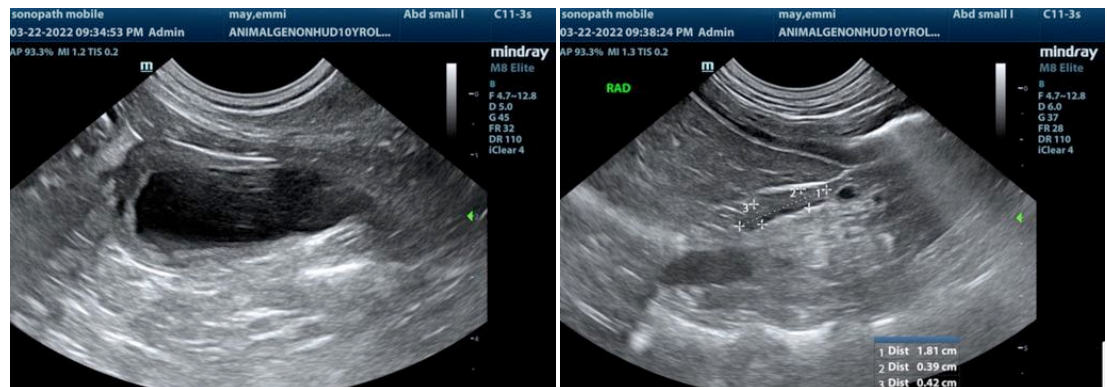
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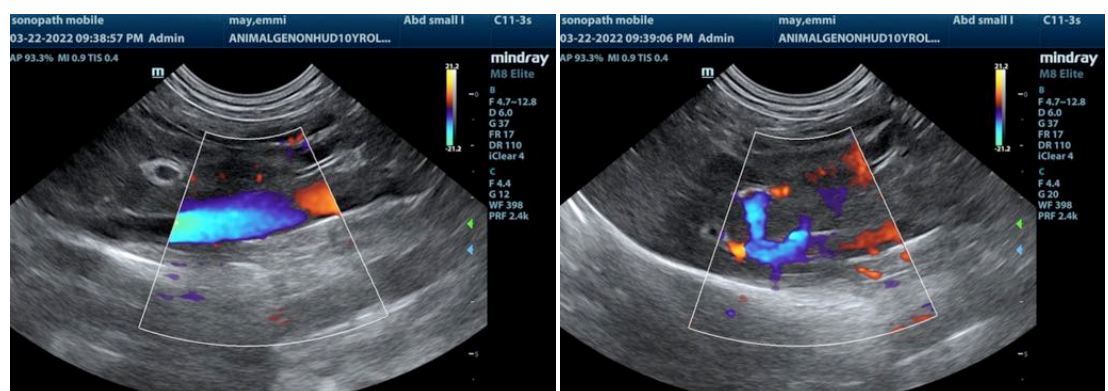
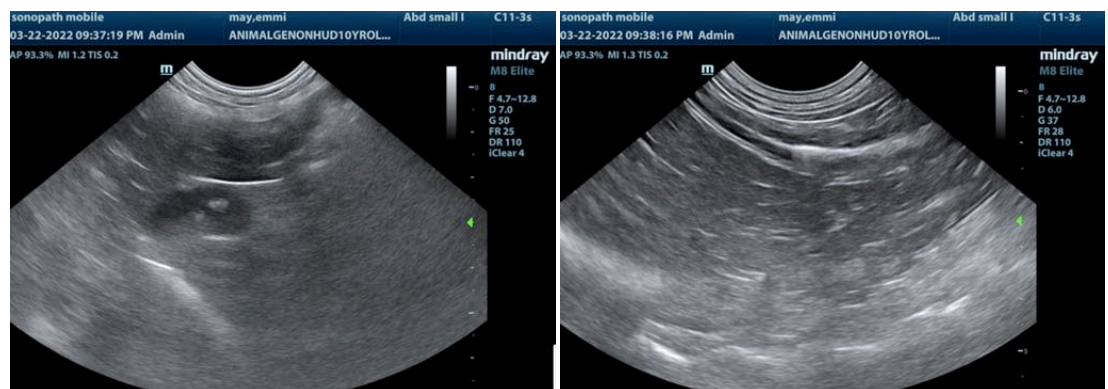
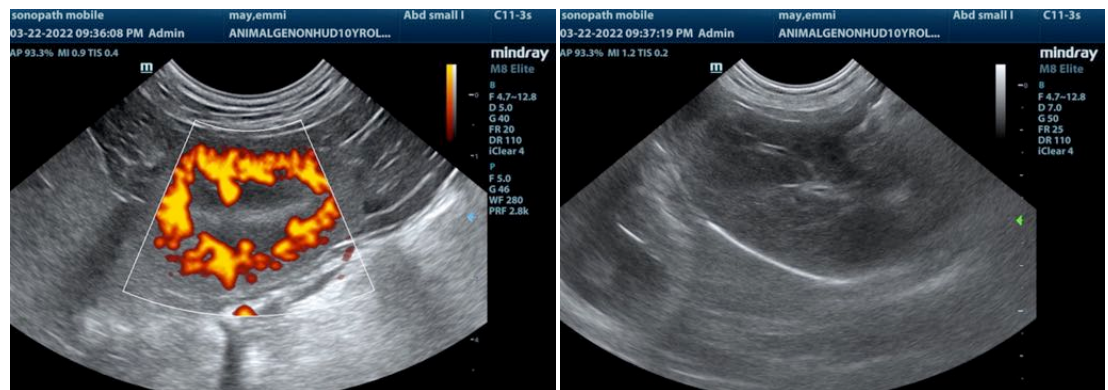
Dr. Tierney

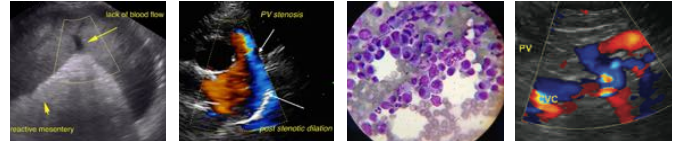
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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10 years

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

Info@SonoPath.com

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