



**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT**  
Penny Owings

**SPECIES**  
Canine

**BREED**  
Pug

**SEX**  
Spayed Female

**AGE**  
11 years

**WEIGHT**  
16.4 lbs

**INTERPRETED BY**  
Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**  
Dr. Moon

**HOSPITAL NAME**  
Shiloh VH

**REFERRING VET**  
Dr. Moon

**INVOICE**  
98163

**DATE**  
4/8/22

**History:** - Chronic soft stool, improved on GI Biome. Current diet mix of i/d low fat and Biome - UA- 1.022 neg protein, urine culture negative - Bile acids normal - Current meds - Metronidazole 10mg bid - proviable sid - carprofen 12.5mg sid - Cobalequin sid

**Abnormal PE/Chem/CBC/UA Results:** - Albumin 1.7 TP 3.4 - LDDS normal- not Cushing's Texas GI panel normal- cobalamin 778 mid range, mild increase PLI - Thyroid profile- likely euthyroid

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction. 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 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. Mineralization was noted in the left kidney. The left and right kidney measured 4.0 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 left adrenal gland measured 0.5 cm. The right adrenal gland measured 0.6 cm.

**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** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.



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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**

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The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. A cystic structure was noted in the right pancreatic limb. This is either a cystic lymph node or benign cyst. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

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**ULTRASONOGRAPHIC FINDINGS**

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Pancreatic or lymph node cyst.

Otherwise, geriatric changes elsewhere.

**INTERPRETED BY**

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is no evidence of significant pathology. If no significant proteinuria is present the protein losing enteropathy is likely in this patient. Screening for Addison's is warranted even though structurally the adrenal glands appear normal.

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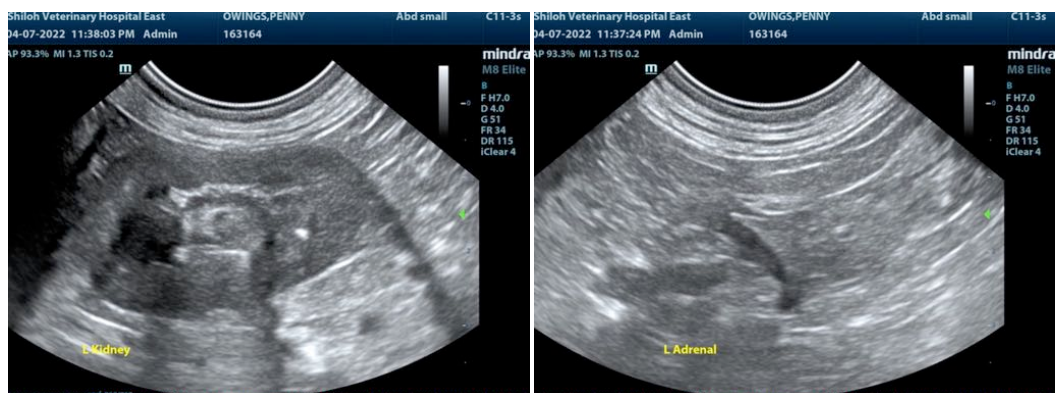
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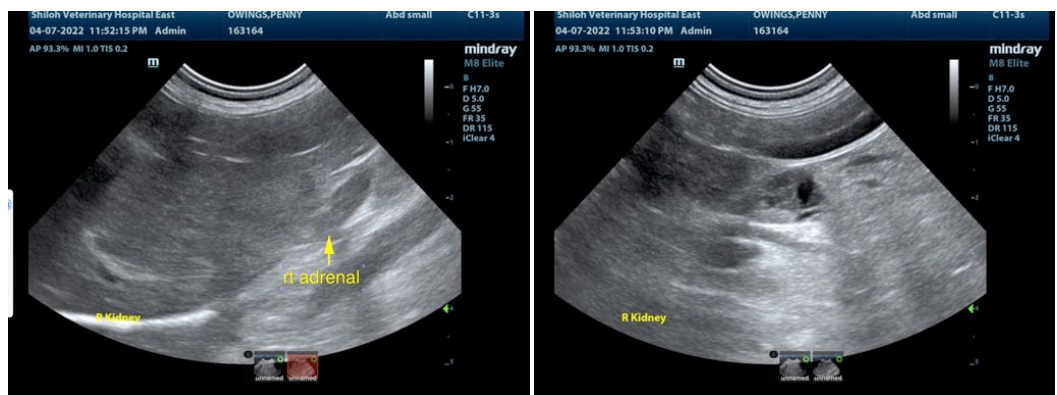
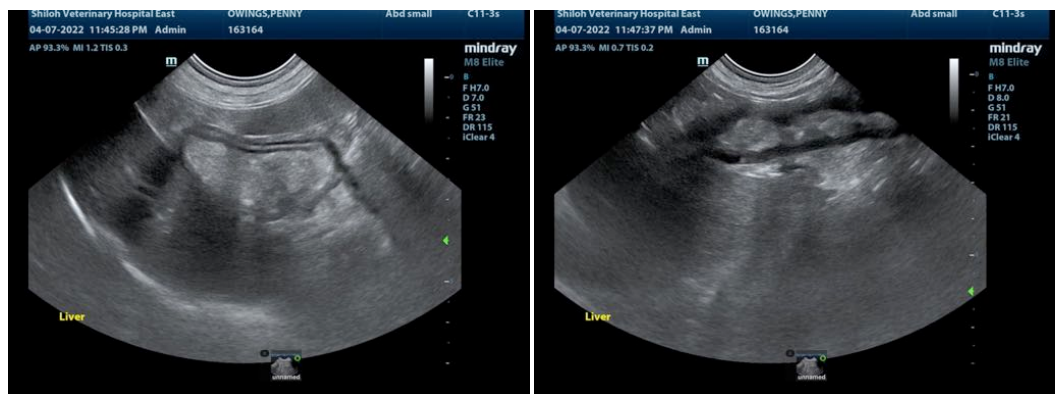
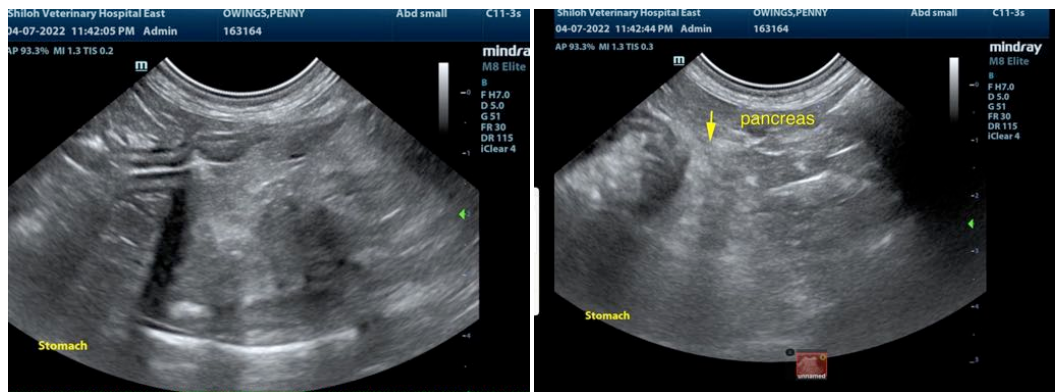
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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