

**PATIENT**

Ruby Houghton

**SPECIES**

canine

**BREED**

Dachshund

**SEX**

Spayed Female

**AGE**

14 Years

**WEIGHT**

13.5

**INTERPRETED BY**

Eric Lindquist, DMV,  
DABVP(CFM), Cert.  
IVUSS

**IMAGING PERFORMED BY**

Ginny Dodd

**HOSPITAL NAME**

Down Dog VC

**REFERRING VET**

Dr. Jennifer Kimmel

**INVOICE**

36808

**DATE**

12/8/25

**PRESENTING CLINICAL SIGNS**

History: H/O elevated liver enzymes, vomiting and hyporexia. Prior h/o oral steroids to treat IVDD earlier in the year. Feeds Farmers Dog Food. Second opinion- first vet suggested euthanasia.

Abnormal PE/Chem/CBC/UA Results: PE: Murphy's sign on palpation, CBC 12/1- WNL CHEM 12/1 ALP 2400 (was 2000); ALT 476, chol 365, T bili 0.4 wnl; alb 2.7, glob 4.0 UA USP 1.022

**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 were 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 mild 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 4.6 cm. The left kidney measured 4.4 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 1.58 cm x 0.62 cm at the caudal pole and 0.47 cm at the cranial pole. The right adrenal gland measured 2.22 cm x 0.52 cm at the caudal pole and 0.66 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 were noted.

**Liver**

The liver images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. The liver revealed slight increased portal markings. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular tracts were of normal volume, and no evidence of congestion was noted.

The gallbladder was double layered with echogenic wall with suspended striating bile and overdistention. The common bile duct measured the upper limits of normal, measuring 0.43 cm, with



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echogenic debris, consistent with mucoduct. Inflammatory pattern was noted around the 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. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

**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.

**ULTRASONOGRAPHIC FINDINGS**

- Chronic gallbladder mucocele and chronic cholecystitis with mucoduct.
- Unremarkable abdomen otherwise

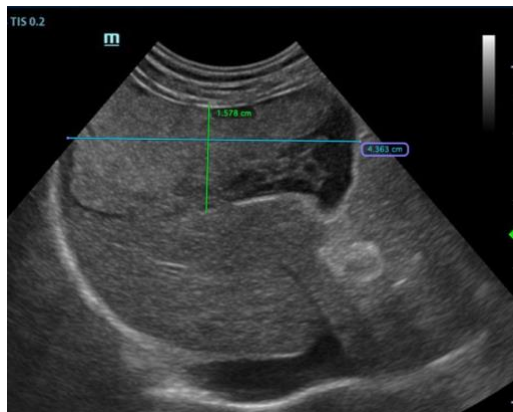
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Cholecystectomy, common bile lavage, bile culture, and liver biopsy are all indicated. There is a slight polyp or mucoduct that should be investigated at surgery, localized approximately 1.0 cm from the duodenal papilla. Lavage or histopath assessment is recommended.

**Gall Bladder Motility Study**

Preparation:

- Fast the dog for 12 hours before the test to ensure gallbladder is full.
- Obtain baseline ultrasonographic long axis measurements of gallbladder size in SDEP 11 & SDEP 12 positions. Long axis apex to neck, short axis at widest point.



EXAMPLE IMAGE ONLY.



**PATIENT**

Meal Administration

Ruby Houghton

- Feed a high-fat test meal A/D diet (Hills) (*High Fat/ High Protein*)

**SPECIES**

Post-Prandial Imaging

canine

- Perform repeat ultrasound prior to feeding (Time 0) and then at 15 & 30 minutes post-meal.
- Re-measure gallbladder volume and assess for contraction.

**BREED**

No change or enlargement: Possible stasis, dyskinesia, mucocele risk, or obstruction.

Dachshund

SonoPath is currently conducting a study for publication on this subject and contributions of image sets following this protocol are appreciated. [Info@sonopath.com](mailto:Info@sonopath.com) for more information.

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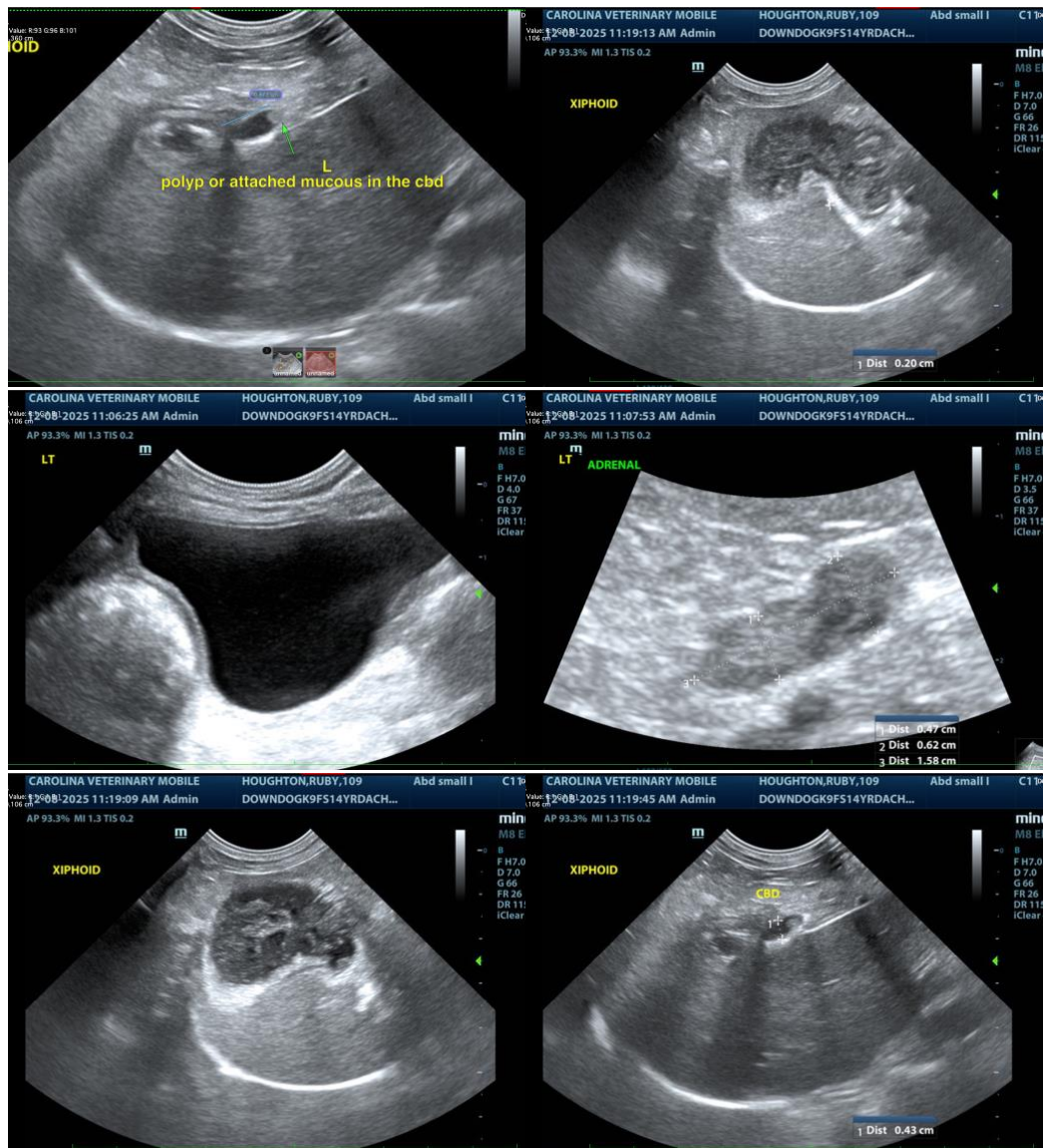
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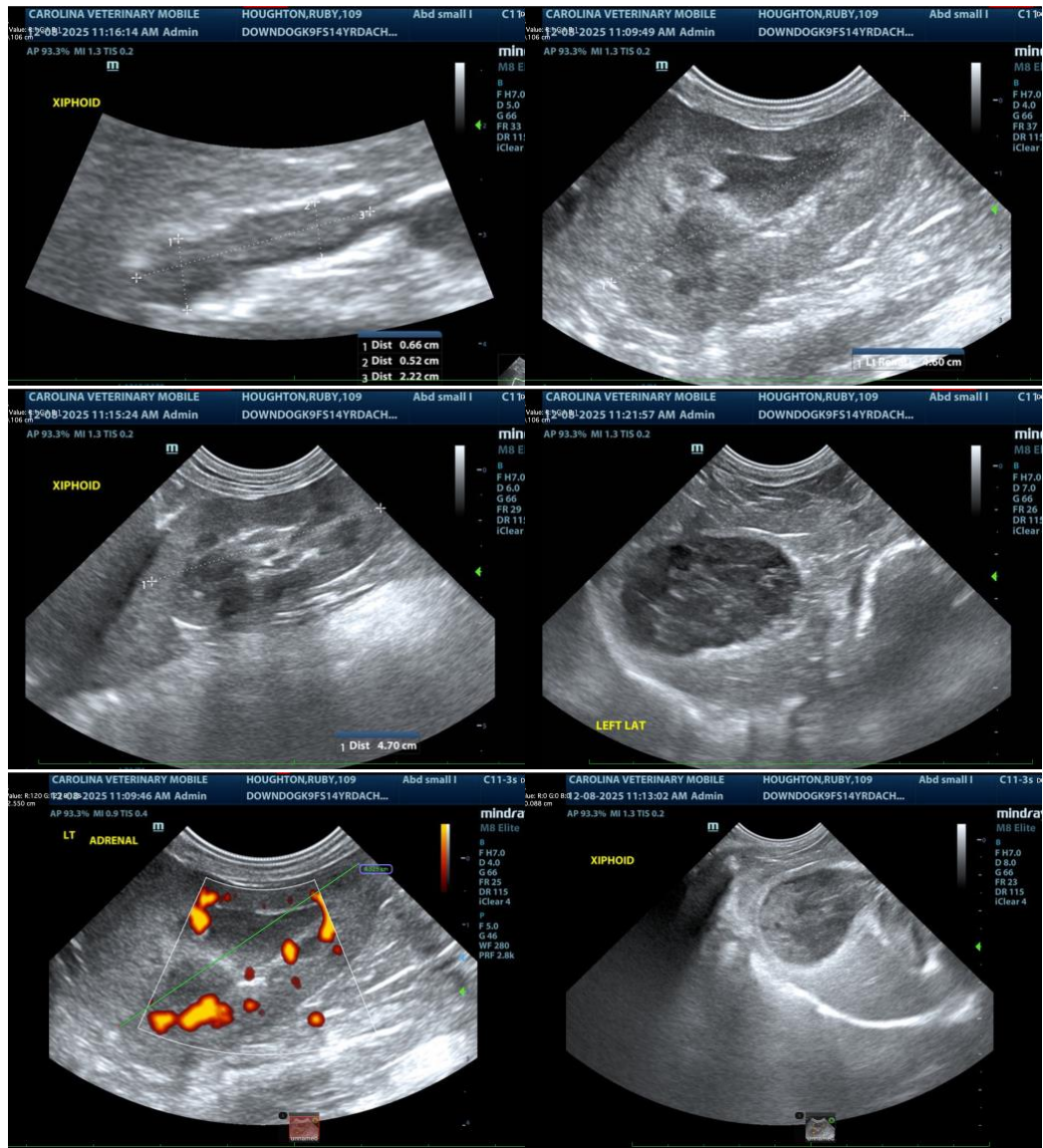
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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(CFM), Cert. IVUSS,  
 CEO, Owner, Founder -- SonoPath.com  
[info@SonoPath.com](mailto:info@SonoPath.com)