



PATIENT PRESENTING CLINICAL SIGNS

Molly Gray

History: Routine blood work revealed abnormal Bile acids. Great energy at home, no neurologic signs. Does not like to eat consistently, prefers raw food. "Shunt Hunt"

SPECIES

Abnormal PE/Chem/CBC/UA Results: BA Pre 35.5 (N 0-14.9), Post 51 (N 0-29.9) CBC and Chem WNL

Canine

BREED

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Yorkie

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.

SEX

Spayed female

AGE

2 years

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 2.9 cm. The right kidney measured 3.14 cm.

WEIGHT

2.7 kg

Adrenal Glands

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

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 1.45 x 0.34 cm at the cranial pole and 0.36 cm at the caudal pole. The right adrenal gland measured 1.2 x 0.29 cm at the cranial pole and 0.27 cm at the caudal pole.

IMAGING PERFORMED BY

Dr. Barnes

Spleen

HOSPITAL NAME

Westview VH

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.

REFERRING VET

Dr. Barnes

Liver

INVOICE

43356

The **liver** was slightly subnormal in size with uniform parenchyma. The portal vein velocity measured 17.0 cm/sec. The portal vein measured 0.42 cm prior to the trifurcation. The vena cava to aortic ratio was 0.42-0.52 cm. 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.

DATE

3/20/23



PATIENT

Gastrointestinal

Molly Gray

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.

SPECIES

Canine

Pancreas

BREED

Yorkie

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.

SEX

Spayed female

ULTRASONOGRAPHIC FINDINGS

Negative shunt hunts. No macroscopic shunting present. Portal hypoplasia/microvascular dysplasia is likely.

AGE

2 years

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

WEIGHT

2.7 kg

Strict dietary regiment is recommended in this patient as well as portal hypoplasia/microvascular dysplasia can be confirmed with core liver biopsy if desired. Otherwise, unremarkable abdomen.

Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Royal Canin Hepatic Support diet or Hills L/D, Metronidazole (7.5 mg/kg PO bid) over the next 14 days, **Lactulose** (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a **high-quality protein supplement** of minor amount of **yogurt or cheddar cheese**. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAME and nutraceuticals as needed. **Ursodiol (10-15 mg/kg p.o. q24h)** can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200–500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.

IMAGING PERFORMED BY

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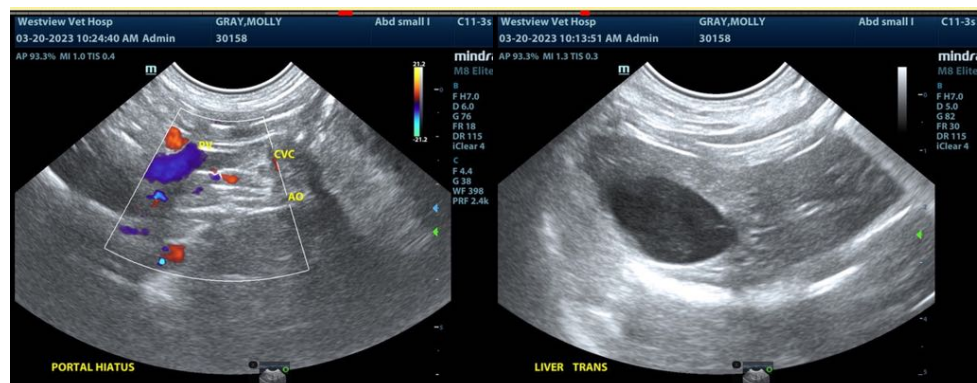
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Molly Gray

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Yorkie

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Spayed female

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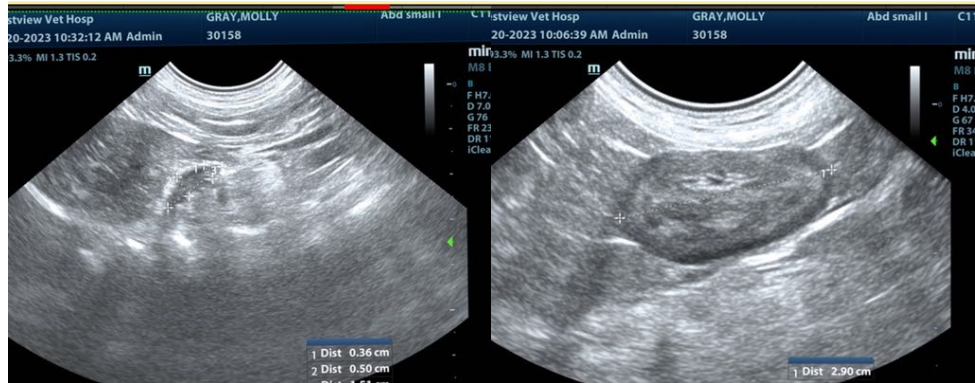
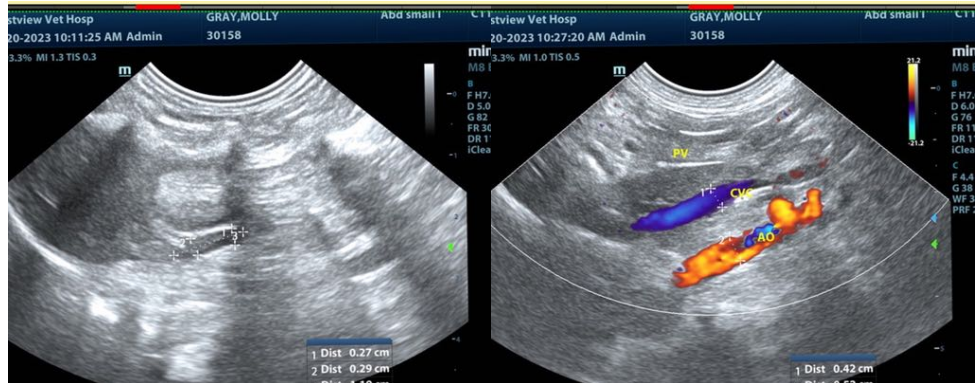
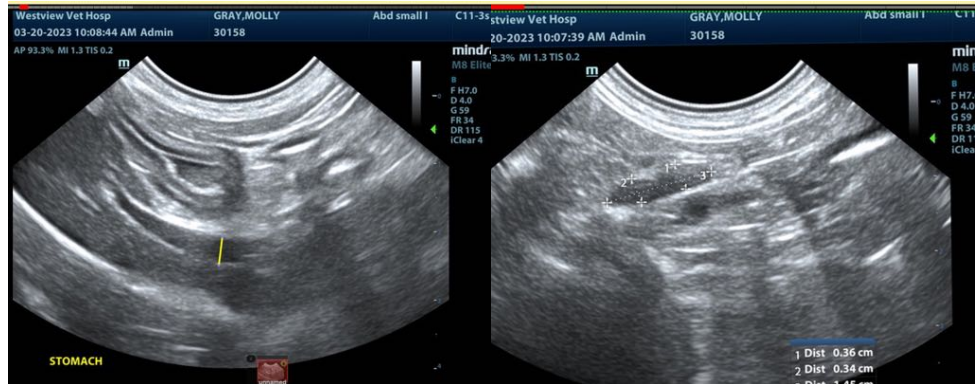
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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