



## PATIENT

Twix Gamelin

## SPECIES

Canine

## BREED

Yorkshire Terrier

## SEX

Neutered male

## AGE

5 years

## WEIGHT

1.5 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Dr. Biederbeck

## HOSPITAL NAME

Lomsnes VH

## REFERRING VET

Dr. Biederbeck

## INVOICE

68364

## DATE

11/5/25

## PRESENTING CLINICAL SIGNS

History: chronic vomiting x 6months weight loss 0.3kg in 1 wk Has had 2 dentals at other clinics and no notes about prolonged recovery post op

Abnormal PE/Chem/CBC/UA Results: elevated BUN Aug 20/25 12.3 (2.5-9.6), normalized Aug 26/25 - 7.1 normal chem incl bun,- Oct 31 /25 elevated bile acids 2021 - pre 38.5 (0-15), post 57.4 (0-30)

## 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 3.0 cm beyond the cystourethral junction and appeared normal. 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 right kidney measured 3.1 cm. The left kidney was normal and measured 2.8 cm.

The residual prostate measured 0.45 cm.

### Adrenal Glands

The left **adrenal gland** was 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 0.32 cm. The right adrenal gland was not visualized.

### Spleen

The **spleen** revealed a focal, hypoechoic nodule at the mid cranial body measuring 0.62 cm with disruption of architecture.

### Liver

The **liver** was subnormal in size with mildly increased portal markings. Intrahepatic vascular volume appeared normal. There was no overt portosystemic shunting; however, I am suspicious of portal hypoplasia/microvascular dysplasia with some level of parenchymal remodeling. The portal vein to vena cava ratio was 1:1. There was no overt evidence of portosystemic shunting. The vessels both measured 0.5 cm. The gallbladder and common bile duct were unremarkable.



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## Gastrointestinal

There was some residual chyme and gas was noted in the **stomach**, yet not pathological. This is consistent with post prandial presentation. The pylorus revealed mild echogenic mucosal remodeling, yet no evidence of foreign bodies or neoplasia. Transit of chyme was noted in the small intestine with slight areas of mucosal speckling.

## 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

- Concerning splenic nodule. Differentials include emerging round cell neoplasia, necrosis, hemangiosarcoma and less likely hemangiosarcoma.
- Mild microhepatica with mild hepatic remodeling.
- Underlying gastritis is a strong potential.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Ultrasound-guided FNA or direct splenectomy with liver biopsy is warranted given the patient's history. GI biopsies can be taken at the time of surgery as well. If splenectomy is not performed then I recommend a recheck sonogram in 3 weeks to assess for any growth of the splenic lesion +/- FNA. Surgical biopsies are necessary in this patient for definitive diagnosis of the liver.

## Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

**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.



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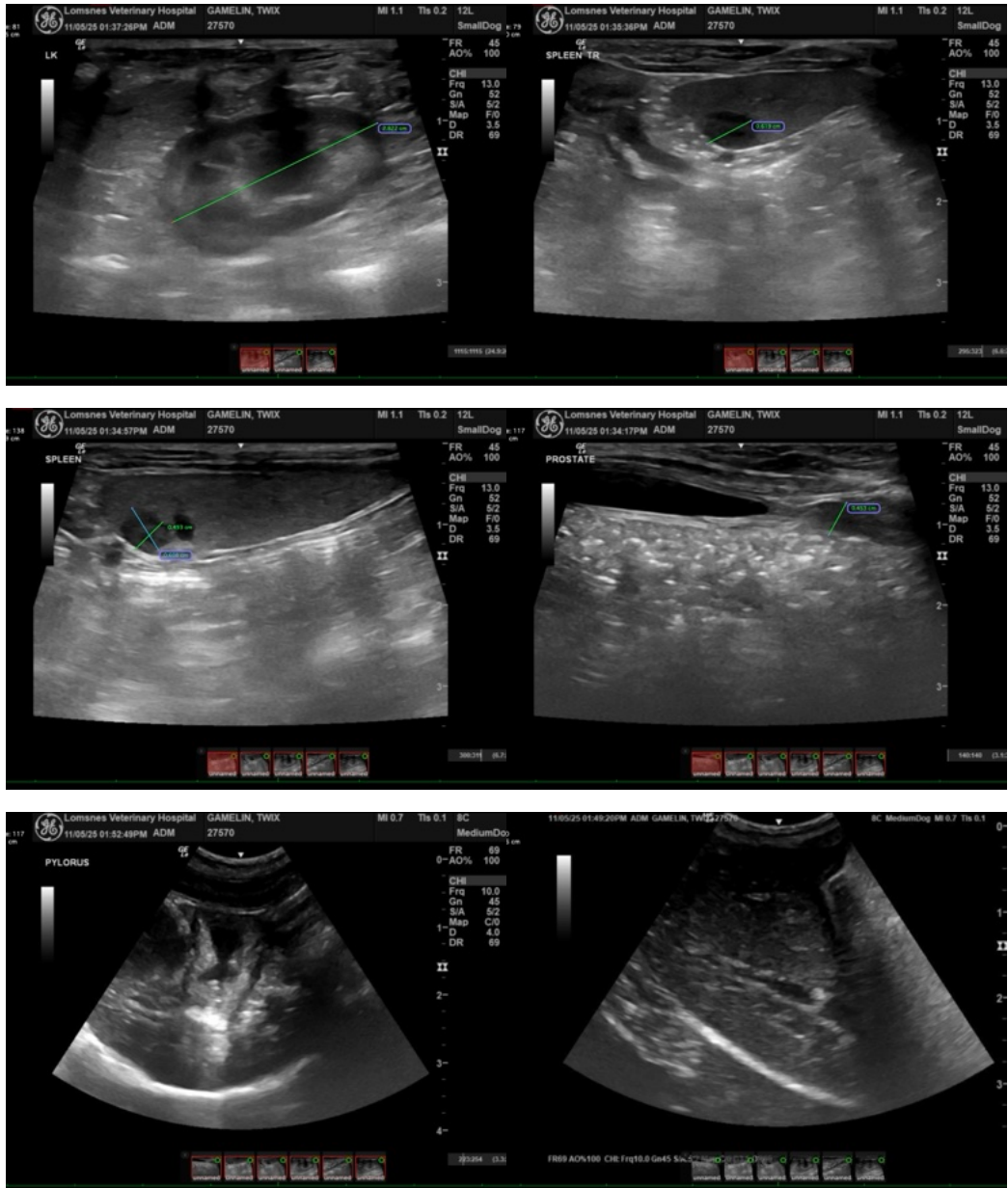
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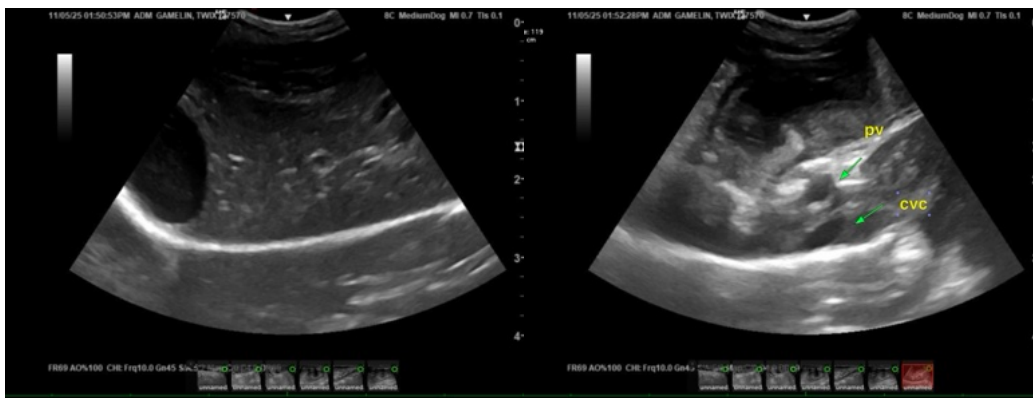
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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 of SonoPath.com

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