



PATIENT

Merlin Connolly

PRESENTING CLINICAL SIGNS

History: Diabetic - unregulated

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

BREED

Yorkshire Terrier

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

Neutered male

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 kidneys measured 4.0 cm with pyelectasia and loss of corticomedullary definition. Blood flow to the kidneys appeared adequate.

AGE

11 years

WEIGHT

9.2 lbs

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 in width. The right adrenal gland measured 0.6 cm.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Spleen

The **spleen** was largely smooth with subtle heterogeneous parenchymal changes while maintaining normal echogenic relationship to the liver and kidney. These changes are consistent with normal age-related alteration. The capsule was smooth without noticeable impingement from within the spleen or from pathology in the adjacent abdomen. The splenic vasculature demonstrated normal volume without signs of congestion or significant contraction. No evidence of active acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

IMAGING PERFORMED BY

Dr. Leal

HOSPITAL NAME

Blairstown AH

REFERRING VET

Dr. Clegg

Liver

Exam of the cranial abdomen demonstrated excessive **liver** size, swollen contour, with conserved uniform architecture. Parenchymal echogenicity was diffusely isoechoic to the spleen and falciform fat. Minor excessive GB debris was noted with the presence gall bladder dilation and precipitate without the overt formation of mucocele but this may be an issue in the future. Gallbladder polyps were noted. This type of liver presentation typically is associated with slow and gradual SAP elevations with low-grade ALT rise. USG-FNA sampling is encouraged if more aggressive LE profiles are present such as ALT > 200 or rapid rise in SAP. These presentations are usually reactive hepatopathies owing to other disease processes either endocrine (Diabetes, Hypothyroidism, Cushing's disease), "antigen surveillance" from the gut/pancreas, or idiopathic breed predisposed progressions.

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Gastrointestinal

SPECIES

Canine

The **gastrointestinal tract** revealed diffuse, hyperechoic fogging or overlay throughout the small intestine as well as areas of mucosal striations and speckling. This striation + fogging effect appeared to exclusively affect the mucosal layer with the submucosa, muscularis and serosa left in-tact. Reactive mesentery was present associated with the serosa indicative of active inflammation. This is most consistent with protein losing enteropathy/lymphangectasia. Full thickness biopsies or endoscopy guided biopsies would be ideal to confirm. No obstructive disease or obvious suspicion of neoplasia.

BREED

Yorkshire Terrier

Pancreas

SEX

Neutered male

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. 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.

AGE

11 years

ULTRASONOGRAPHIC FINDINGS

WEIGHT

9.2 lbs

Pancreatic remodeling.

Moderate degenerative renal changes with pyelectasia.

Mucosal fogging in the GI tract.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Underlying UTI should be ruled out along with assessment for insulin quality and regularity of treatment. Some level of chronic active pancreatitis is possible. The mucosal fogging may indicate lymphangectasia and inflammatory bowel. There was no evidence of neoplasia.

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Potential Causes of Diabetic Dysregulation

This is a suggestive checkoff list when faced with an unregulated diabetic patient:

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UTI

Dietary indiscretion/intolerance

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Pancreatitis

Hyperthyroidism/hypothyroidism

Exogenous steroids (including topical eye meds)

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Cushing's

Acromegaly



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Owner compliance

Insulin quality issues

Antibodies to insulin

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Underlying Neoplasia

Diffuse liver disease

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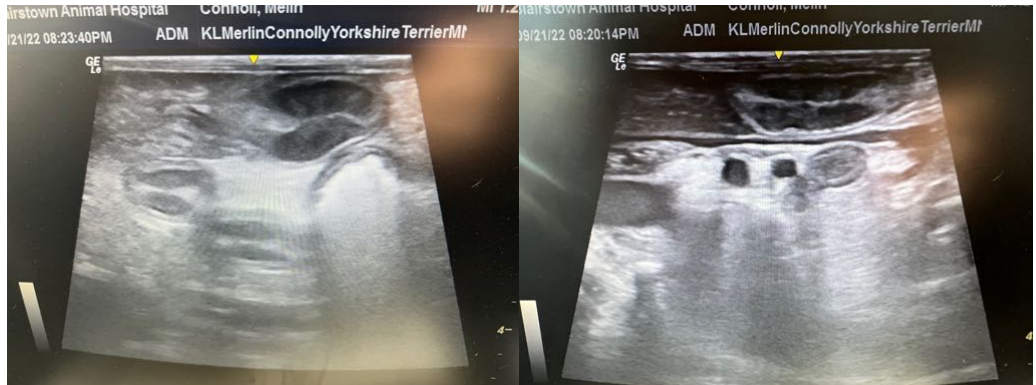
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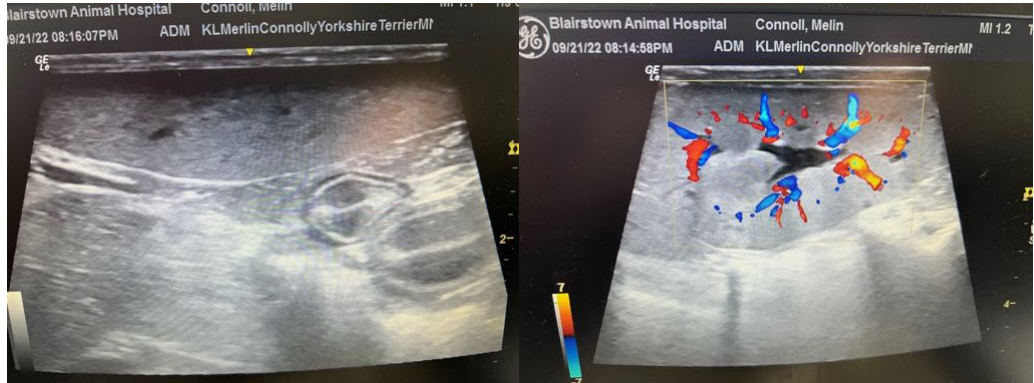
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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