



**PATIENT**

Bailey Deprima

**SPECIES**

Canine

**BREED**

Yorkshire Terrier

**SEX**

Neutered male

**AGE**

11 years

**WEIGHT**

10 lbs

**INTERPRETED BY**

Kathleen Sennello  
DVM, MS, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

**IMAGING  
PERFORMED BY**

Diane McFadden, RVT

**HOSPITAL NAME**

Newton VH

**INVOICE**

96081

**DATE**

2/15/22

**PRESENTING CLINICAL SIGNS**

CPL abnormal, vomiting /regurgitating, diarrhea, not eating, DKA. On unasyn, cerenia, andasetron, metoclopramide CRI, humulin R CRI.  
Abnormal PE/Chem/CBC/UA Results: initial BW: BUN 87.9, Ca 7.8, albumin 4.1, glucose >600, chol >450, ALKP 394, tbili 0.8, Na low 126, K low 3.5, Ckl low 92; UA: ketones 2+, protein 2+, glucose 3+

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is normal in size (0.7 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (4.55 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.81 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal/borderline large in size measuring 0.71 cm at the caudal pole It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal/borderline large in size measuring 0.57 cm at the caudal pole and 0.8 cm at the cranial pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**Spleen**

The spleen is subjectively normal in size, echotexture is homogenous, but the splenic capsule is somewhat irregular with isoechoic bulges. The blood flow through the hilus and splenic parenchyma appears normal. This is most consistent with splenic irregularity or isoechoic nodules.

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The liver is subjectively large in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

**Gastrointestinal**

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

**Pancreas**

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

**Free Abdomen**

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

**ULTRASONOGRAPHIC FINDINGS**

**PRIMARY FINDINGS:**

- Irregular contour of the splenic capsule. Findings could be consistent with normal anatomic variation or isoechoic nodules. FNA and cytology would be necessary to differentiate.
- Prominent, moderate pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.



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- Large heterogenous liver. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The findings are most consistent with a diabetic hepatopathy.

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- Large gallbladder sludge. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting. There is no evidence of surrounding inflammation or bile duct changes.

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Yorkshire Terrier

- Borderline bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.

**SEX**

Neutered male

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**AGE**

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No focal bowel changes are observed to explain the vomiting and regurgitation reported. There is mild fluid dilation of the stomach which could be an indicator of mild ileus and there are mild pancreatic changes observed, which can be an indicator of pancreatic disease as ultrasonographic changes in the pancreas do not always correlate with clinical symptoms.

**WEIGHT**

10 lbs

- Consider a GI panel to Texas A&M for quantitative PLI to further evaluate the pancreas.
- Consider a FNA of the spleen or close continued monitoring.
- Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

**INTERPRETED BY**

Kathleen Sennello  
DVM, MS, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

I suspect the hepatic changes are most consistent with a diabetic hepatopathy. The gallbladder has a large amount of adhered sludge on the wall, but no overt inflammation. If liver enzyme elevations are significant you can consider starting Ursodiol, but I do not suspect this is associated with the current vomiting.

**IMAGING PERFORMED BY**

The adrenal glands appear 'plump'. If signs of Cushing's are suspected you could consider an ACTH stimulation test once the patient has recovered and glycemic control is improved.

Diane McFadden, RVT

I recommend in hospital treatment for DKA and possible mild pancreatitis. Consider an ionized calcium to evaluate the hypocalcemia reported as this can be seen with pancreatitis.

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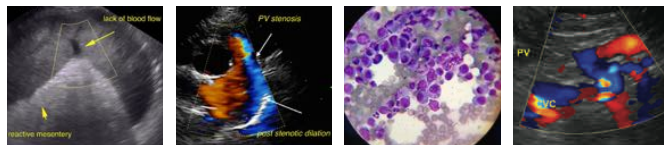
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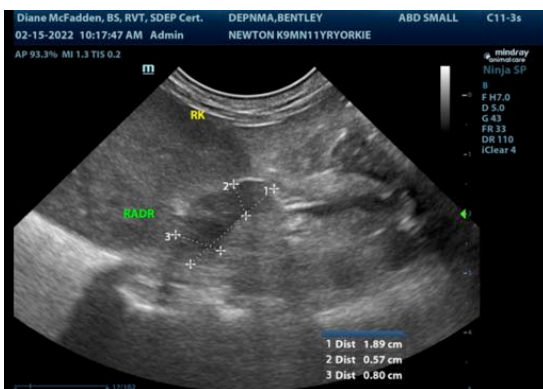
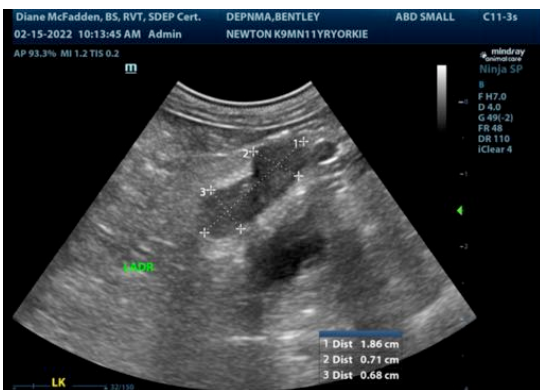
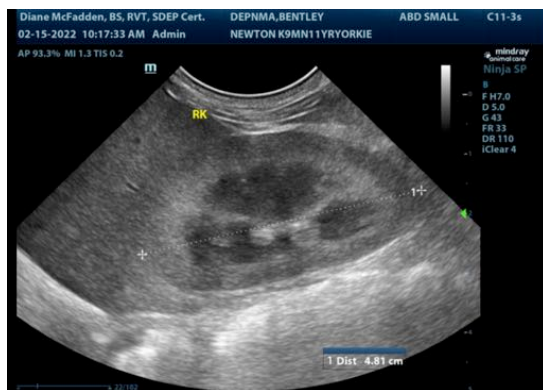
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com