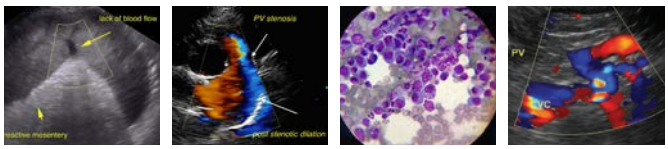
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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1-800-838-4268 info@sonopath.com

**PATIENT**
Louie Zimmerman

**SPECIES**
Canine

**BREED**
Yorkshire Terrier

**SEX**
Neutered Male

**AGE**
14 Years

**WEIGHT**
13 Pounds

**INTERPRETED BY**
Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**
Diane McFadden

**HOSPITAL NAME**
Newton Vet Hospital

**REFERRING VET**
N/A

**INVOICE**
35676

**DATE**
2/15/22

## PRESENTING CLINICAL SIGNS

elevated liver values, PU/PD. On denamarin, metronidazole, amoxicillan
Abnormal PE/Chem/CBC/UA Results: AST 95, ALT 730, ALKP 2548, GGTP 125, PSL 402

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is moderately distended with anechoic contents. There is a round, echogenic, non-shadowing density settled against the dependent wall. No masses, inflammatory changes, or shadowing cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate (neutered) is normal in size, echotexture and echogenicity for a neutered male.

The right kidney is normal in size (4.87 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. Cortical cysts noted.

The left kidney is normal in size (4.49 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. Cortical cysts noted.

### *Adrenal Glands*

In the area of the right adrenal gland, there is a 2.0 cm round, heterogeneous, mineralized mass. The adrenal gland does not maintain normal shape or contour, and corticomedullary distinction is not present. There is no evidence of vascular invasion noted in these images.

The left adrenal gland is normal in size (1.64 cm long x 0.33 cm at the cranial pole and 0.33 cm at the caudal), and flat in appearance. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

### *Spleen*

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

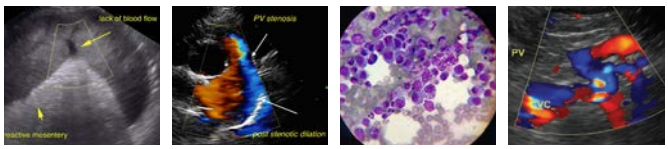
### *Liver*

Liver is subjectively enlarged. Margins are smooth but round. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

### *Gastrointestinal*

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.



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The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

### *Pancreas*

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### *Free Abdomen*

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

## ULTRASONOGRAPHIC FINDINGS

- Right adrenal tumor with a concurrently flat left adrenal gland – suggesting adrenal dependent hyperadrenocorticism due to an adrenal cortical tumor with both benign adenoma and malignant adenocarcinoma as differentials. A pheochromocytoma is also possible, but considered less likely, given the concurrently flat left adrenal gland.
- Hyperechoic hepatomegaly– most consistent with benign steroid (endocrine) hepatopathy or reactive or idiopathic hepatopathy. Infiltrative neoplasia such as round cell neoplasia is also possible, but considered less likely.
- Incidental bilateral renal cortical cysts
- Echogenic, non-shadowing density in the urinary bladder – Differentials include mucus plug, blood clot, non-shadowing cystoliths less likely but possible.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommendations include hormone testing in the form of a low-dose Dexamethasone suppression test to definitively diagnosis the suspected adrenal dependent hyperadrenocorticism. If positive, a urinalysis and urine culture are also recommended. Blood pressure is recommended if not recently evaluated. 3-view thoracic radiographs are recommended to further evaluate cardiopulmonary status and look for any evidence of metastatic disease. Ultimately, surgical adrenalectomy will be the treatment of choice if adrenal dependent hyperadrenocorticism is diagnosed, at which time benign versus malignant disease can be determined. A surgical planning abdominal CT scan could be considered for more definitive assessment of any possible vascular invasion.

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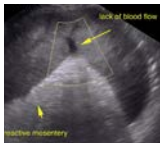
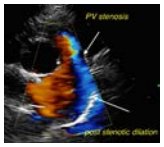
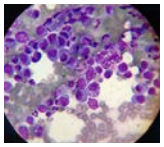
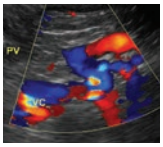

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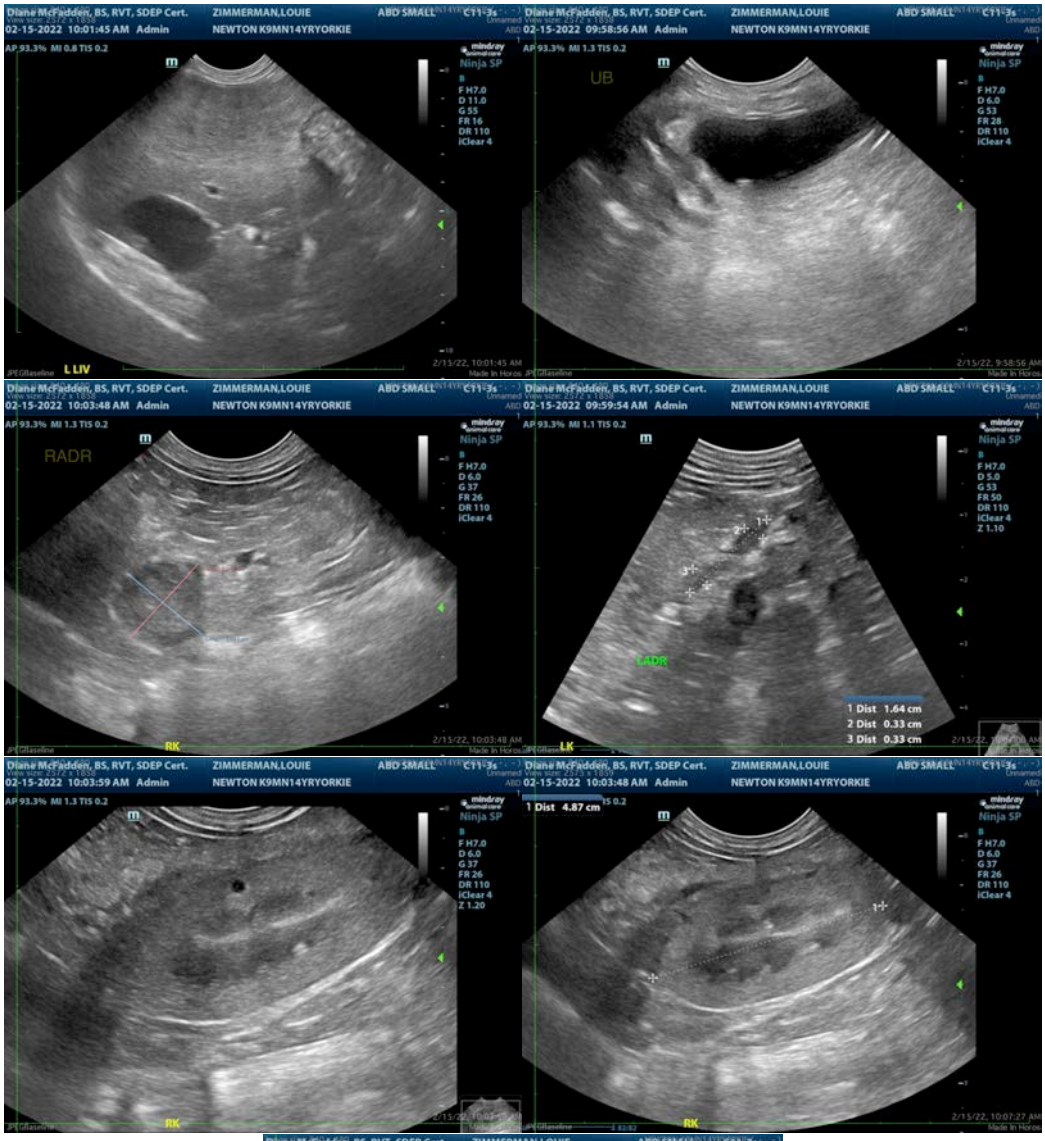


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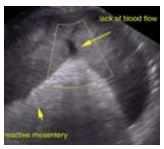
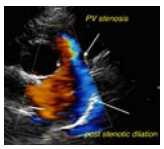
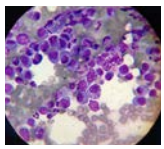
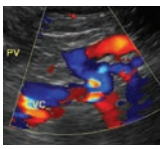

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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**Beth Johnson**, DVM, DACVIM
Beth.Johnson@sonopath.com