



**PATIENT**

Buddy Radar

**SPECIES**

Canine

**BREED**

Yorkie

**SEX**

Neutered Male

**AGE**

7

**WEIGHT**

4 kg

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING  
PERFORMED BY**

Dr. Natasha Stanley

**HOSPITAL NAME**

Viking VH

**REFERRING VET**

Dr. Natasha Stanley

**INVOICE**

21004

**DATE**

2/6/23

**PRESENTING CLINICAL SIGNS**

History: DKA, pancreatitis, hospitalized x 2.5 days. History of Cushing's disease. Was on trilostane but stopped 2 weeks ago due to inappetence. no changes in diet

Abnormal PE/Chem/CBC/UA Results: Palpable firm mass in R cranial abdomen (pancreas?).

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

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 were noted. Ureteral papillae were normal. The pelvic urethra was imaged 1.0 cm beyond the cystourethral junction. Iliac trifurcation was unremarkable.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some mild age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The left kidney measured 4.3 cm. The right kidney measured 4.9 cm. Slight m pinpoint mineralizations were noted.

**Adrenal Glands**

The **adrenal glands** appeared slightly enlarged and swollen. No evidence of focal capsular expansion or invasion into the phrenic veins were noted. No overt suspicion of neoplasia was noted. This is considered likely a hyperplastic change associated with stress or adrenal endocrinopathy (PDH). If isosthenuria is persistently present and the patient morphologically suggests Cushing's disease then ACTH testing would be indicated. The left adrenal gland measured 0.85 cm at the cranial pole and 0.74 cm at the caudal pole. The right adrenal gland measured 1.0 cm at the cranial pole and 0.87 cm at the caudal pole.

**Spleen**

The **spleen** revealed uniform enlargement and the parenchyma was uniform. No overt masses deriving from the spleen were noted. Caudally folding of the spleen was noted.

**Liver**

Exam of the cranial abdomen demonstrated moderately excessive **liver** size, swollen contour, with conserved uniform architecture. Parenchymal echogenicity was diffusely isoechoic to the spleen and falciform fat. The gallbladder was mildly over distended with suspended and dependent debris, yet not to the level of emerging mucocele, yet sludge appears to be mildly excessive. 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. The hepatic lymph nodes were enlarged (up to 6.0 mm).



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**Gastrointestinal**

The **pylorus** was extensively thickened with areas of loss of mural detail. Significant inflammation was noted around the pylorus and upper duodenum. The distal small intestine was unremarkable; however, the pancreatic pathology enveloped the upper gastrointestinal tract.

**Pancreas**

The **pancreas** in this patient revealed mixed hypoechoic parenchymal changes with enhanced surrounding mesentery, consistent with inflammation. The pancreatic pathology enveloped the upper duodenum. The pathology was extensive. Areas of free fluid were noted.

**ULTRASONOGRAPHIC FINDINGS**

- Gastroduodenitis
- Extensive pancreatic pathology- Pancreatic necrosis/pancreatitis +/- underlying pancreatic carcinoma
- Free fluid
- Benign vacuolar hepatopathy liver pattern with minor hepatic lymphadenopathy, likely related to the pancreatic pathology
- Mild excessive gallbladder debris
- Bilateral adrenal hypertrophy, consistent with PDH
- Enlarged spleen with splenic fold
- Age-related renal changes

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The pancreatic presentation is significant. FNA of the hypoechoic portions of the pancreas are strongly encouraged to ensure obvious carcinoma is not evident. Aggressive treatment for gastroenteritis/pancreatitis is warranted with pain management, plasma expanders, GI protectants, broad spectrum antibiotics, however, surgical intervention may be necessary for debridement given the adhesion pattern upon the upper GI. Delayed outflow will be an issue in this patient. There is a potential for eventual development of post-hepatic obstruction given the position of the pathology.

If no neoplasia is found on FNA and medical management is utilized, recheck sonogram every 48-72 hours. Expect at least 5-7 days of intensive care for pancreatitis, assuming underlying carcinoma is not an issue.



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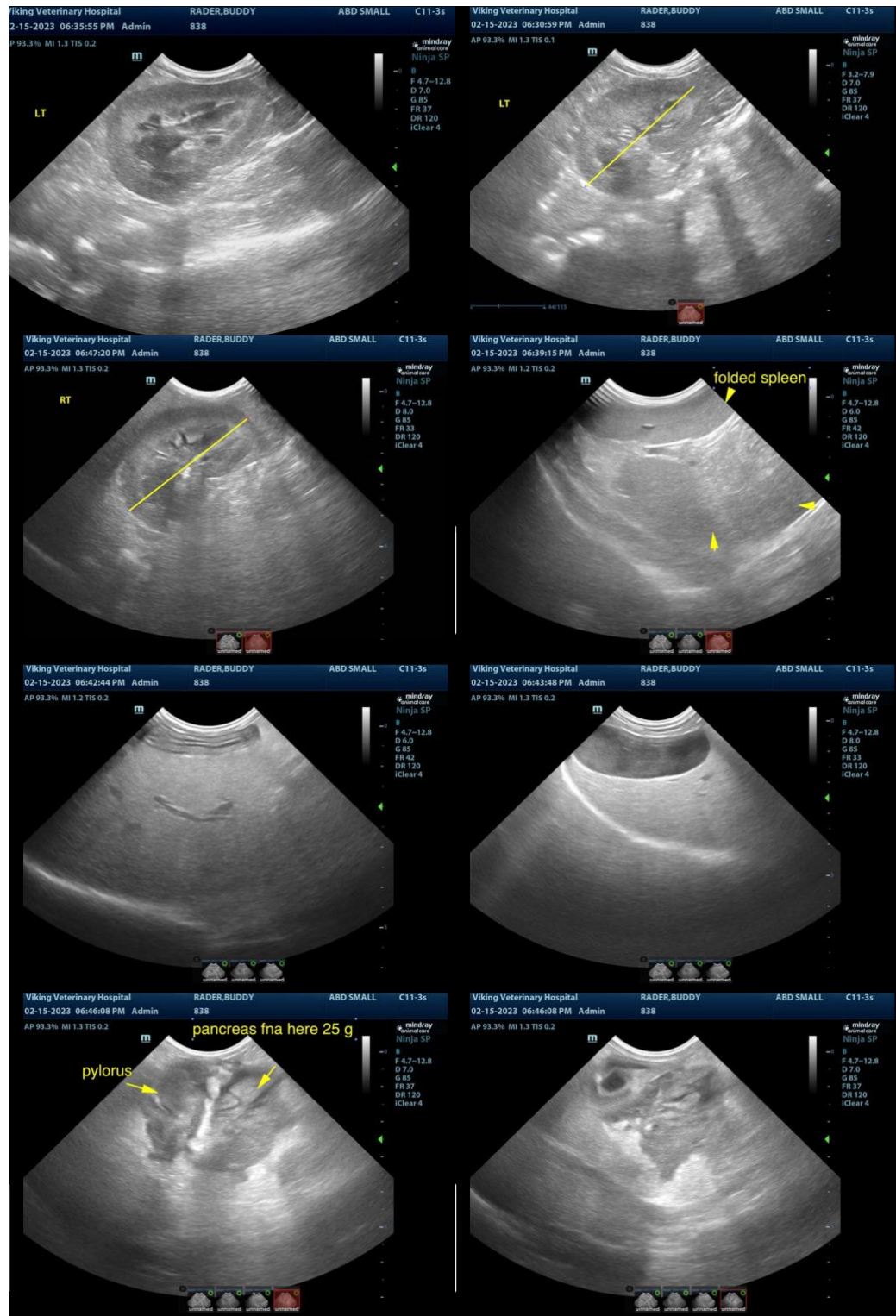
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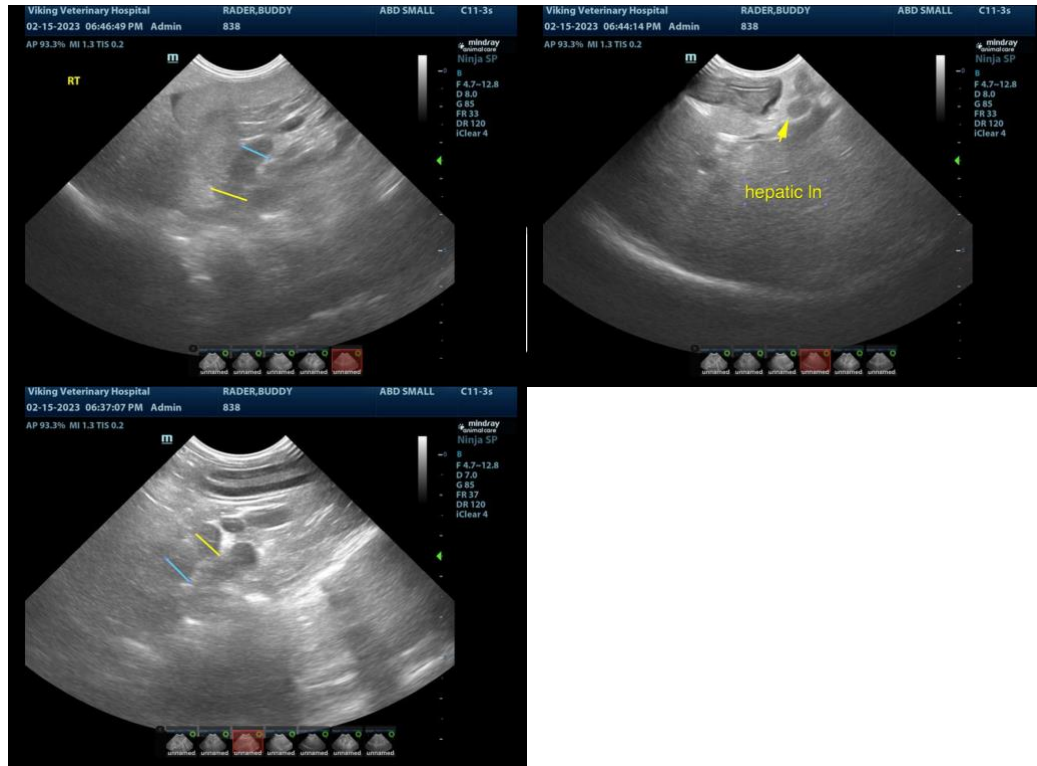
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com