



**PATIENT**

Lilly McKenzie

**SPECIES**

Canine

**BREED**

Fox Terrier

**SEX**

SF

**AGE**

9 years

**WEIGHT**

3.8 kg

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

**IMAGING PERFORMED BY**

Dr. Gardner

**HOSPITAL NAME**

Wilvet Salem

**REFERRING VET**

Dr. Gardner

**INVOICE**

15278

**DATE**

10/27/22

**PRESENTING CLINICAL SIGNS**

Transfer from VCA Salem for suspected DKA. urine dip stick performed which showed 3+ ketones

Abnormal PE/Chem/CBC/UA Results: EPOC: pH 7.207 Na 129 K 3.1 Cl 103 BUN 36 Gluc 207 Hct 57 S/O: \_QAR, T: , HR: , RR , mm pale pink/dry w/ CRT < 2s. EENT: no nasal or ocular discharge. Cataracts bilaterally, decreased to absent menace H/L: NMA, SSP; lungs clear, eupneic. ABD: tense on palpation . M/S: amb x 4 w/ no lameness. NEU: appropriate mentation. A.: \_Diabetic DKA decrease appetite Suspect pancreatitis Possible UTI \_

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen. Mild, nondependent, particulate sediment, which may indicate suspected cellular debris / protein, crystalline debris, or mucus, was present without evidence of calculus formation. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic mural changes were noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. Pinpoint to focal minor medullary mineralization was noted in both kidneys. No evidence of pyelectasia was present. The left kidney measured 4.2 cm in length. The right kidney measured 4.0 cm in length.

**Adrenal Glands**

The left adrenal gland was indistinctly visualized without overt pathology subjectively measuring 0.47 cm width. The right adrenal gland was not definitively visualized.

**Spleen**

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted. The spleen was subnormal in size, consistent with volume contraction.

**Liver/ Gallbladder**

The liver exhibited generalized enlargement. The parenchyma of the liver was subjectively increased in echogenicity compared to the spleen and renal cortices. The echotexture of the liver parenchyma was uniform with a mild coarse echotexture. The capsule of the liver was symmetrical in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non distended in size with echogenic, nonmineralized, non dependent biliary sludge. The biliary sludge was non organized with a hypoechoic to anechoic, irregular to interrupted rim visible between the nondependent sludge and inner wall. No signs of peripheral inflammation.



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***Gastrointestinal***

Lilly McKenzie

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

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The small intestine presented intact wall layering with primarily maintained 1:3 muscularis/mucosa ratio. Segmental jejunum exhibited intact yet mildly prominent wall layering with mild segmental jejunal nonobstructive ileus pattern.

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Normal visible colon wall layers were present with subjective semi-formed fecal matter.

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***Pancreas***

The parenchyma of the pancreas was hyperechoic to adjacent omental fat with diffuse parenchyma remodeling. The capsule of the pancreas was mildly asymmetrical in contour without evidence of peripancreatic inflammation. These changes may suggest chronic inflammation, fibrosis, or saponification if previous history of pancreatitis. Focal area of hypoechoic pancreatic parenchyma was present in the proximal right pancreatic limb medial to the duodenum. No overt signs of pancreatic neoplasia.

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***Free Abdomen***

Regional peri intestinal hyperechoic mesentery and intermittent small pocket of scant peritoneal free fluid were present. No overt lymphadenopathy was noted.

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**ULTRASONOGRAPHIC FINDINGS**

- Mild urinary bladder sediment
- Chronic renal changes exhibiting pinpoint to focal minor medullary mineral
- Diabetic hepatopathy pattern
- Moderate nondependent gallbladder debris, possible early non-inflamed gallbladder mucocele
- Primarily chronic pancreatitis pattern, potential for fibrosis and suspect focal active to chronic active inflammation
- Generalized enteritis pattern with segmental mild to moderate jejunitis
- Mild primarily peri intestinal hyperechoic mesentery and intermittent pocket scant peritoneal free fluid

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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Urine C/S on a sterile urine sample is recommended given the likelihood of glucose urea and potential inflammatory sediment. Spec cPL and/or full GI panel to include PLI/TLI/Cobalamin/Folate for further assessment of the pancreas as well as assessment for underlying more generalized enteropathy is warranted.

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Close monitoring for evidence of progressive cholestasis or hepatic enzyme elevations with potential sonographic reassessment of the gallbladder if clinically indicated is recommended. Hepatosupportive medications including Denamarin and Ursodiol, as well as DKA therapy and as-needed gastrointestinal support, would be reasonable.



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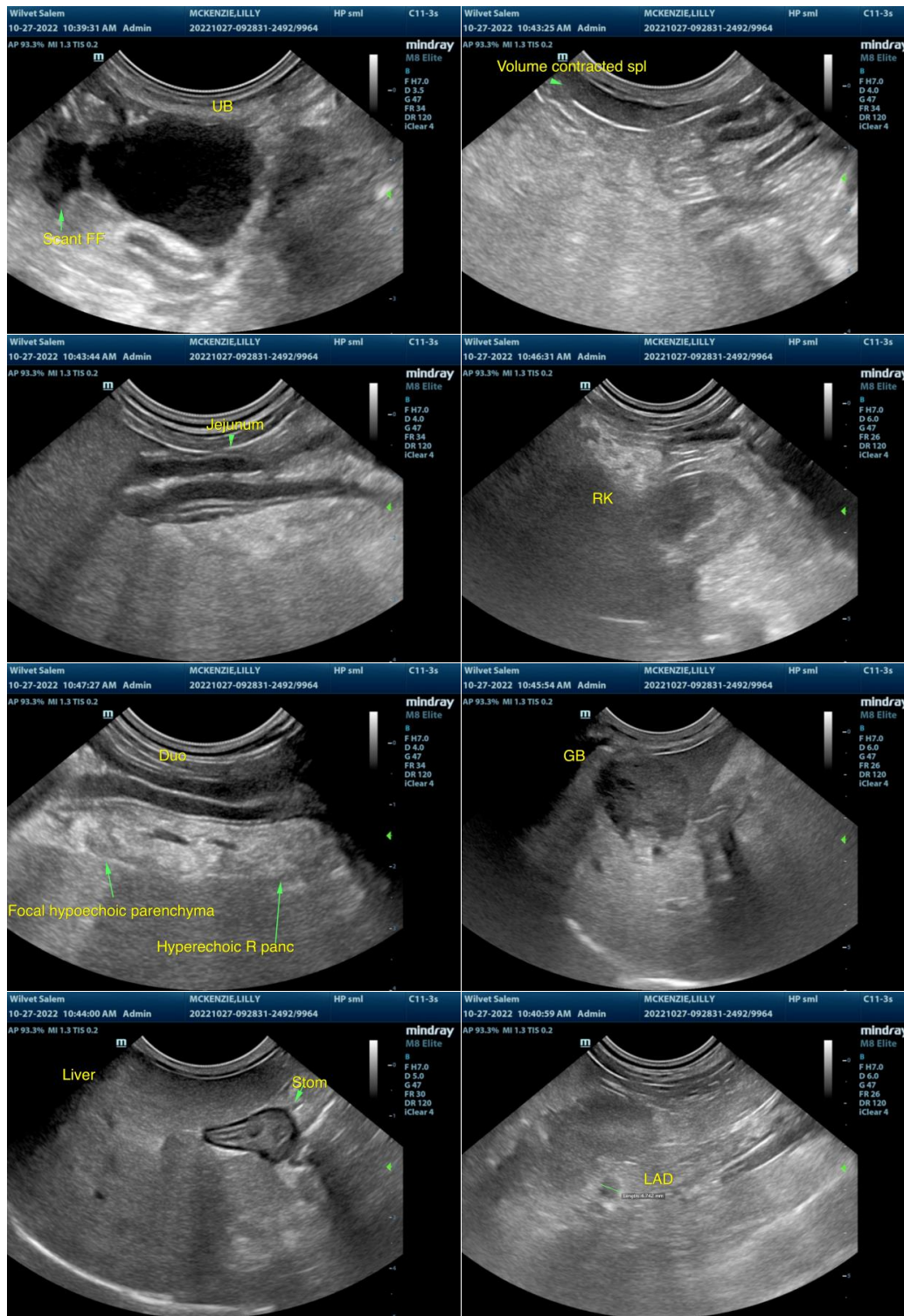
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**  
info@SonoPath.com