



**PATIENT**

Sal Johnson

**SPECIES**

Canine

**BREED**

Terrier X

**SEX**

Neutered Male

**AGE**

7 Years

**WEIGHT**

30 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Kelly Vazquez

**HOSPITAL NAME**

Midland Park VH

**REFERRING VET**

Dr. John Shokoff

**INVOICE**

24735

**DATE**

8/16/21

**PRESENTING CLINICAL SIGNS**

Diagnosed as a diabetic 6 months ago at other DVM, but not responding to insulin. Abdominal ultrasound today to ensure no complicating issues. Current meds: Vetsulin 17 units BID and Denamarin.

Abnormal PE/Chem/CBC/UA Results: ALT 224, on 4/23/21 - placed on Denamarin Advanced at that time, glucose 260mg/dL (70-138). U/A: 2+ glucose, 2+ protein (4/23/21), USG 1.039.

**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 residual prostate was uniform measuring 1.17 cm.

The **kidneys** were normal in size and contour; however, a minor hyperechoic ring was noted at the corticomedullary junction. This is consistent with diabetic nephropathy. This is likely from glucosuria. However, assessment for proteinuria is also warranted. This is an idiopathic finding, but an expected finding in diabetic patients. The left kidney measured 5.89 cm. The right kidney measured 5.82 cm.

**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. Focal mineralization 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 2.71 cm x 0.78 cm at the caudal pole and 0.97 cm at the cranial pole. The right adrenal gland measured 2.43 cm x 1.06 cm at the cranial pole and 0.64 cm at the caudal pole.

**Spleen**

The **spleen** was normal size and relatively normal contour with multifocal hyperechoic areas of mineralization. This is a benign change; however, can be related to Cushing's disease or other endocrinopathies.

**Liver**

The **liver** was normal in size and mildly coarse in architecture. The gallbladder wall was echogenic and thickened with minor debris. History of chronic cholecystitis likely.

**Gastrointestinal**

The **gastric** wall was mildly thickened. Some retention of ingesta was noted. The small intestine and colon were unremarkable.

**Pancreas**

Diffuse hyperechoic changes were present in the area of the **pancreas**. The pancreatic remodeling was evident with multifocal to diffuse hyperechoic changes. These changes are consistent with fibrosis, amyloid, saponification of fat and may contain areas of low-grade chronic active inflammation especially if pain on imaging (+ Murphy sign) was present +/- focal subxyphoid palpation reveals pain response. No overt masses were noted.



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**ULTRASONOGRAPHIC FINDINGS**

- Chronic gastritis pattern
- Chronic cholangitis pattern with thickened gallbladder
- Minor pancreatic remodeling
- Mild bilateral adrenal hypertrophy
- Splenic mineralization – likely metabolic origin

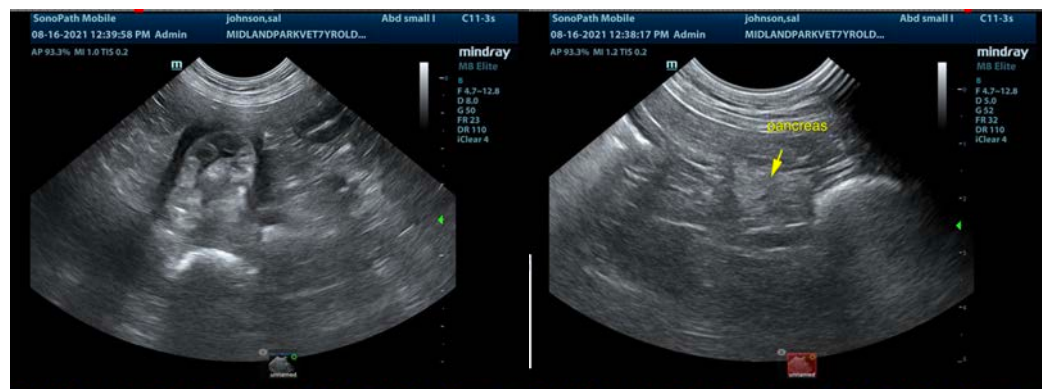
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of neoplasia. Given that USG is well concentrated, typical Cushing's is unlikely. However, atypical Cushing's is a potential. Ursodiol therapy warranted. A clinical trial of Enrofloxacin/Metronidazole, possible diet change and GI protectants could all be considered empirically. Recheck sonogram in one month regarding the stomach, adrenals and liver.

**Potential Causes of Diabetic Dysregulation**

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

- UTI
- Dietary indiscretion/intolerance
- Pancreatitis
- Hyperthyroidism/hypothyroidism
- Exogenous steroids (including topical eye meds)
- Cushing's
- Acromegaly
- Owner compliance
- Insulin quality issues
- Antibodies to insulin
- Underlying Neoplasia
- Diffuse liver disease





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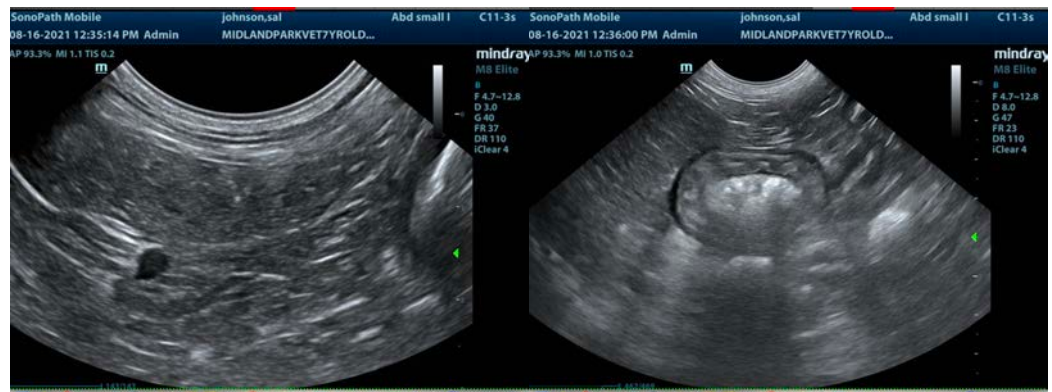
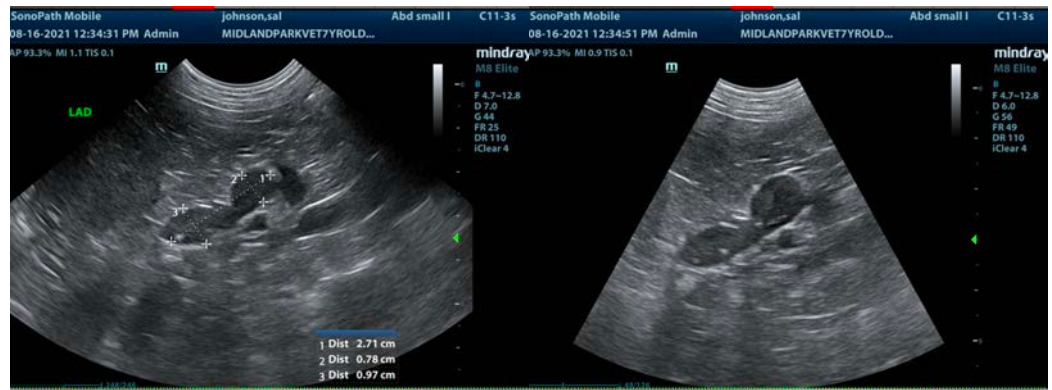
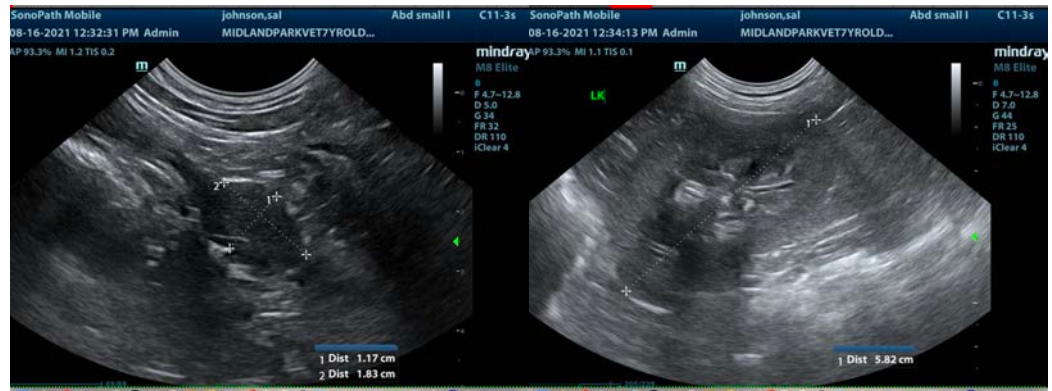
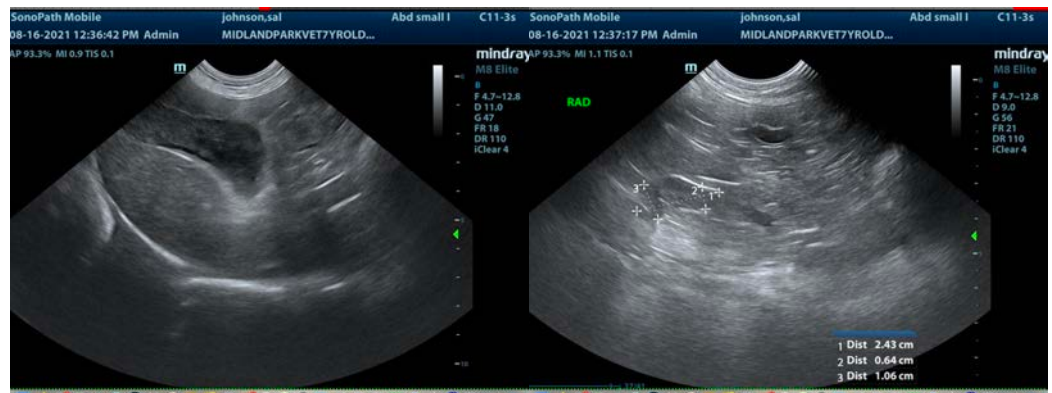
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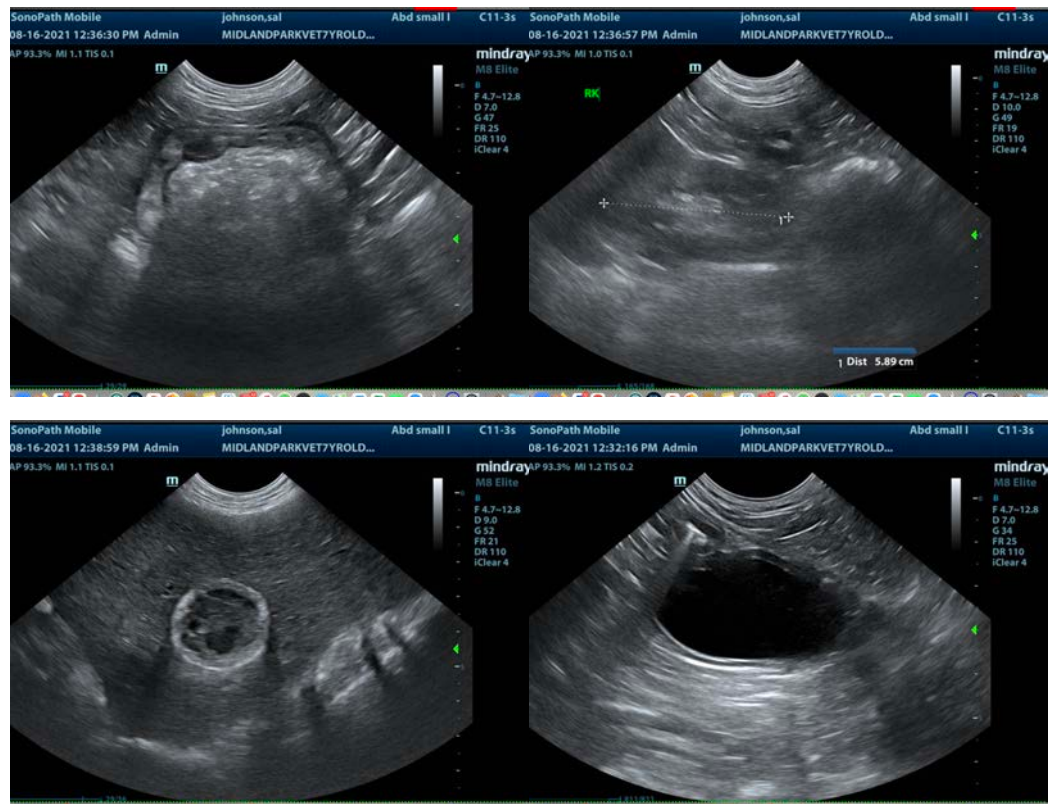
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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](mailto:info@SonoPath.com)