



**PATIENT**

Cooper Terwilliger

**SPECIES**

Canine

**BREED**

Australian Shepherd

**SEX**

Neutered Male

**AGE**

10 Years

**WEIGHT**

19.3 kg

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Craig Seyler

**HOSPITAL NAME**

Wilvet South

**REFERRING VET**

Craig Seyler

**INVOICE**

23557

**DATE**

7/22/23

**PRESENTING CLINICAL SIGNS**

History: Per O P Diabetic X 2 years. P on vetsulin, O thinks pet started with 6 units and is now up to 16 units for some time. O went on vacation 5 days ago, son was watching pet and stated that P ate well and was given insulin the whole time. O got home last night and pet refused dinner and V multiple times, not eating today, but no longer vomiting. No D seen. P drinking a lot today, and urinating a lot. A little more active than yesterday.

Abnormal PE/Chem/CBC/UA Results: BG 643. CBC - WBC 24.3k (neu 20.6k, mon 1.9k) Chem - BUN 79, CRE 1.9, Gluc 680, hyponatremia 131, hypochloridemia 92, ALP 809, Tbil 1.0, Cholesterol 483 UA - usg 1.020, ketones 50mg/dL, gluc 100mg/dL, blood 250, pH 7, EPOC - metabolic acidosis with respiratory compensation. ph 7.29, hypontraemia 123, hypochloridemia 98, hypocalcemia 0.96.

**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 **kidneys** were normal in size and contour; however, a minor hyperechoic ring was noted at the corticomedullary junction. This is a minor change, 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.

**Adrenal Glands**

The **left adrenal gland** was slightly irregular and mildly enlarged at the caudal pole, measuring 1.08 cm at the caudal pole and 0.7 cm at the cranial pole.

The **right adrenal gland** measured the upper limits of normal, measuring 0.9 cm at the cranial pole and 0.5 cm at the caudal pole.

**Spleen**

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

**Liver**

The **liver** was uniformly swollen. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is a mild change, consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia. Echogenic gallbladder wall was noted. A trace amount of sand was present in the gallbladder. The gallbladder changes are not overtly pathological yet a history of cholangitis is likely. Gallbladder calculi were also noted.

**Gastrointestinal**



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The upper **gastrointestinal tract** in this patient revealed minor, edematous wall. There was no evidence of foreign bodies. Minor areas of fluctuant fluid accumulation were noted within the lumen with hyperperistalsis. This pattern continued to the ileocecal valve. The colon revealed a fluid filled lumen. This presentation is most consistent with gastrointestinal irritation/inflammation without obstruction. Fundic stasis was noted, likely owing to metabolic ileus.

**Pancreas**

The **pancreas** was enlarged, hypoechoic, irregular and nodular, measuring up to 2.0 cm in width.

**ULTRASONOGRAPHIC FINDINGS**

- Gastroenteritis/pancreatitis (pronounced pancreatic hyperplasia)
- Mild diabetic nephropathy
- Diabetic hepatopathy and porcelain gallbladder
- Slight irregular and mildly enlarged left adrenal gland
- Upper limits of normal size right adrenal gland

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No specific primary disease was noted. Ursodiol therapy upon the gallbladder, could be considered from a proactive standpoint. Regulation of the diabetic state and treatment for gastroenteritis/pancreatitis should prove effective in this patient. No evidence of neoplasia.

**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



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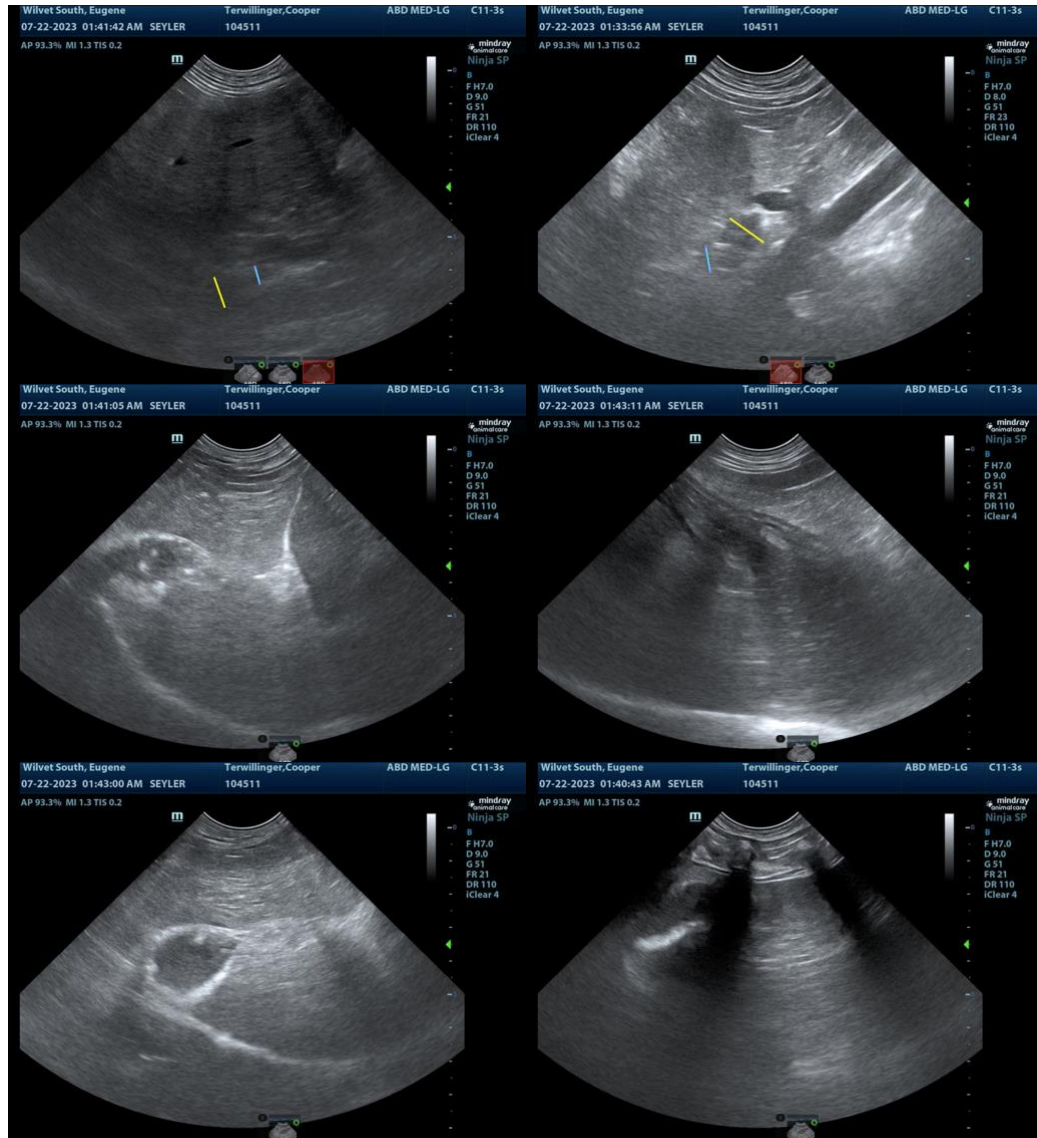
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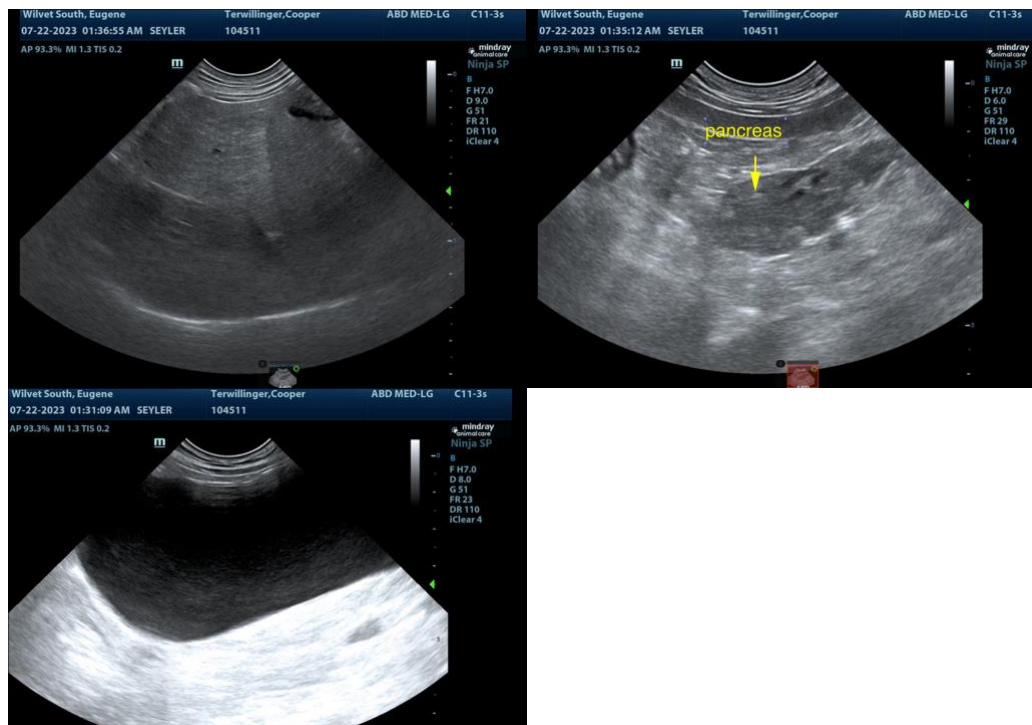
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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