



PATIENT

Betty Saunders

SPECIES

Canine

BREED

Terrier Mix

SEX

Intact female

AGE

11 years

WEIGHT

4.05 kg

PRESENTING CLINICAL SIGNS

History: Poorly regulated diabetic (diagnosed in June 2021). Presented to hospital on 3/7 for anorexia for 5 days, weight loss, vomiting, and passing hard feces. Has not had a heat cycle in 2 years. Has been getting 2U Vetsulin BID, but while has been sick, owner has only been giving 1U BID and reported that she seemed worse with insulin. Hospitalized yesterday and started eating on her own. Abnormal PE/Chem/CBC/UA Results: BCS 3/9, matted fur. Severe periodontal disease. CBC - Neut 2.75 with bands, monocytosis 7.42, plt 592 Chem - Glc 429, SDMA 16, phos 2.4, Ca 6.9, Na 125, K 2.9, Cl 90, GGT 15, Amy 409, Lip 151 UA - USG 1.029, pH 6.5, 30mg/dL proteinuria, 1000mg/dL glc, 50mg/dL ketones, quiet sediment

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 was 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 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. Slight pinpoint mineralization was noted. The left kidney measured 4.3 cm. The right kidney measured 4.5 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 1.28 x 0.63 cm at the cranial pole and 0.57 cm at the caudal pole. The left adrenal gland measured 1.57 x 0.47 cm at the cranial pole and 0.45 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 was noted.

Liver

Exam of the cranial abdomen demonstrated excessive **liver** size and swollen contour. Mild, coarse architecture was noted with increased portal markings and minor parenchymal remodeling is suggestive of an inflammatory component. Minor excessive GB debris was noted with the presence gall bladder dilation and precipitate without the overt formation of mucocele but this may be an issue in the future. 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

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Stegemoller

HOSPITAL NAME

North Idaho AH

REFERRING VET

Dr. Poulsen

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> 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.

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Gastrointestinal

The **stomach** was over distended with fluid. Variable minor small intestinal thickening was noted with soft stool in the colon.

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Pancreas

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The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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ULTRASONOGRAPHIC FINDINGS

Gastrointestinal ileus owing to primary diabetic state.

WEIGHT

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Otherwise, unremarkable abdomen.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Eric Lindquist, DMV
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The changes are expected for this breed and disease process. There is no evidence of neoplasia or reproductive pathology.

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Potential Causes of Diabetic Dysregulation

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

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UTI

Dietary indiscretion/intolerance

Pancreatitis

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Hyperthyroidism/hypothyroidism

Exogenous steroids (including topical eye meds)

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Cushing's

Acromegaly

Owner compliance

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Insulin quality issues

Antibodies to insulin



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Underlying Neoplasia

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Diffuse liver disease

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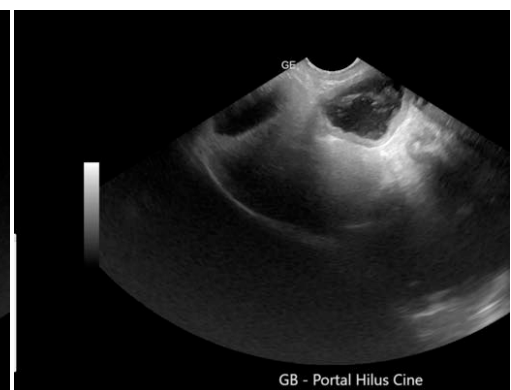
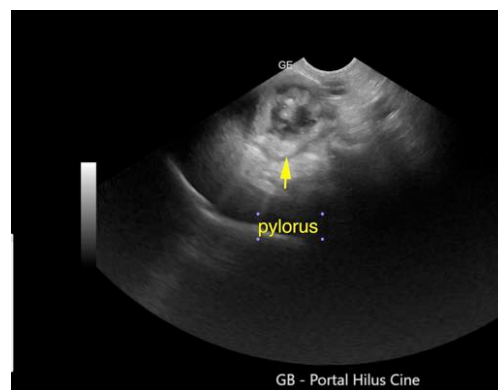
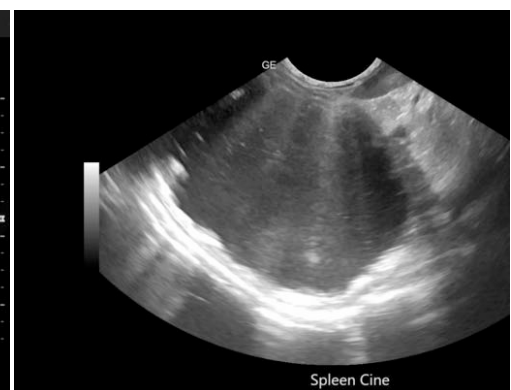
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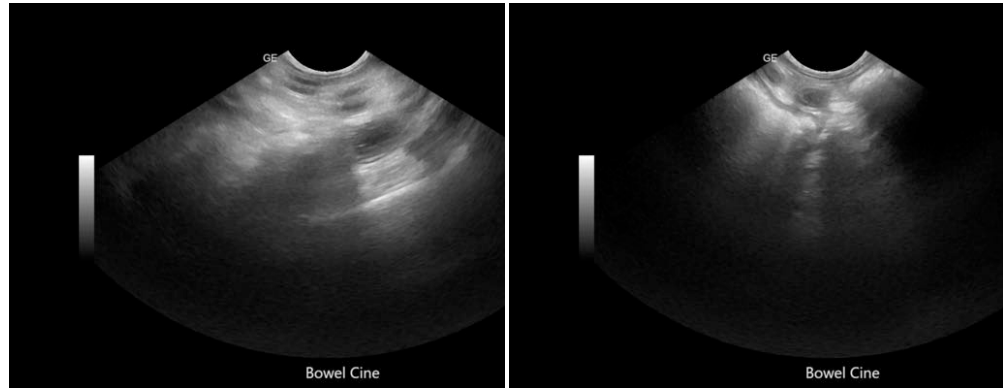
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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