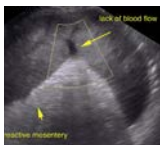
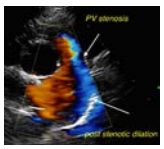
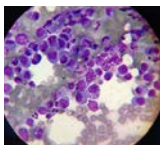
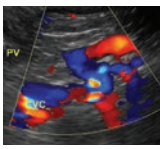

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PATIENT

Ahari Knight

SPECIES

Feline

BREED

DMH

SEX

Spayed Female

AGE

13 Years

WEIGHT

6.4 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Deml

HOSPITAL NAME

Craig Road AH

REFERRING VET

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INVOICE

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PRESENTING CLINICAL SIGNS

13 yo FS DMH cat. Diagnosed diabetic that has been difficult to regulate. P has a history of rapid weight loss (about half her body weight since early 2022) and was hospitalized last week for inappetance. P is now eating about 1/2 of her food and is on 0.5U of glargine SQ once a day for diabetes. Ultrasound recommended due to rapid weight loss, concerning BW abnormalities (elevated BUN, hypocalcemia, neutropenia, lymphopenia).

Abnormal PE/Chem/CBC/UA Results: Elevated BUN: 87 (14-36)- normal creatinine at 1.1, USG of 1.043 Hypocalcemia: 7.1 (8.2-10.8) Neutropenia: 1944 (2500-8500) Lymphopenia: 648 (1200-8000) Proteinuria: 2+ Glucosuria: 3+

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (3.76 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (3.6 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

Spleen

The spleen is not clearly visualized.

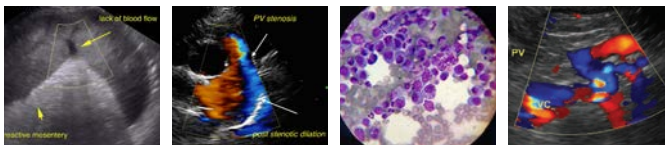
Liver

The liver is borderline large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is mildly heterogenous in echotexture with subtle, indistinct focal mottling. No focal nodules or cystic lesions are observed.

The gallbladder is not clearly visualized, but there is the suspicion of a dilated tortuous bile duct measuring 0.38 cm. Confirmation would likely require power doppler and visualization of the gallbladder.

Gastrointestinal

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. It measures at a normal thickness of <0.36cm with some variability due to the



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presence of rugal folds. The distinction of the gastric wall layering is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measures 0.22 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The area of the pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is a prominent mesenteric lymph node visualized at 0.62 cm. The omentum is generally of normal echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Possible bile duct dilation – Dilation of the common bile duct could be consistent with a functional obstruction (i.e. primary hepatic disease resulting in hepatocellular swelling) or with an extrahepatic bile duct obstruction (ie. choledocholith, bile duct tumor, pancreatic disease, other).
- Borderline large, heterogeneous liver – Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy. This could be consistent with a diabetic hepatopathy.
- Prominent mesenteric lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The changes observed in the kidneys are consistent with chronic age related renal disease. Recommend a blood pressure, urinalysis and culture to establish a baseline. Correlate the liver findings with bloodwork. The gallbladder is not clearly visualized. Typically, we would follow that to the bile duct, looking for extra debris, an obstruction, etc., and power doppler will differentiate between the bile ducts and the vasculature. I suspect the bile duct is dilated here. No obvious obstruction is visualized. This can be seen as a normal finding in some older cats. If liver enzyme elevations are not present, this is less likely to be a significant finding.

An obvious cause for the weight loss is not observed. Recommend an ionized calcium and PTH level, looking for evidence of hypoparathyroidism. Below is a list of possible differentials I like to consider when looking at possible insulin resistance.

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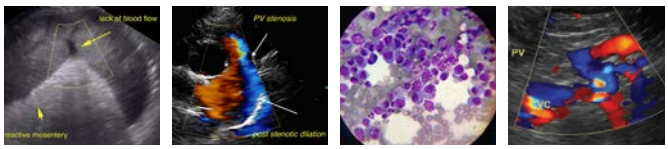

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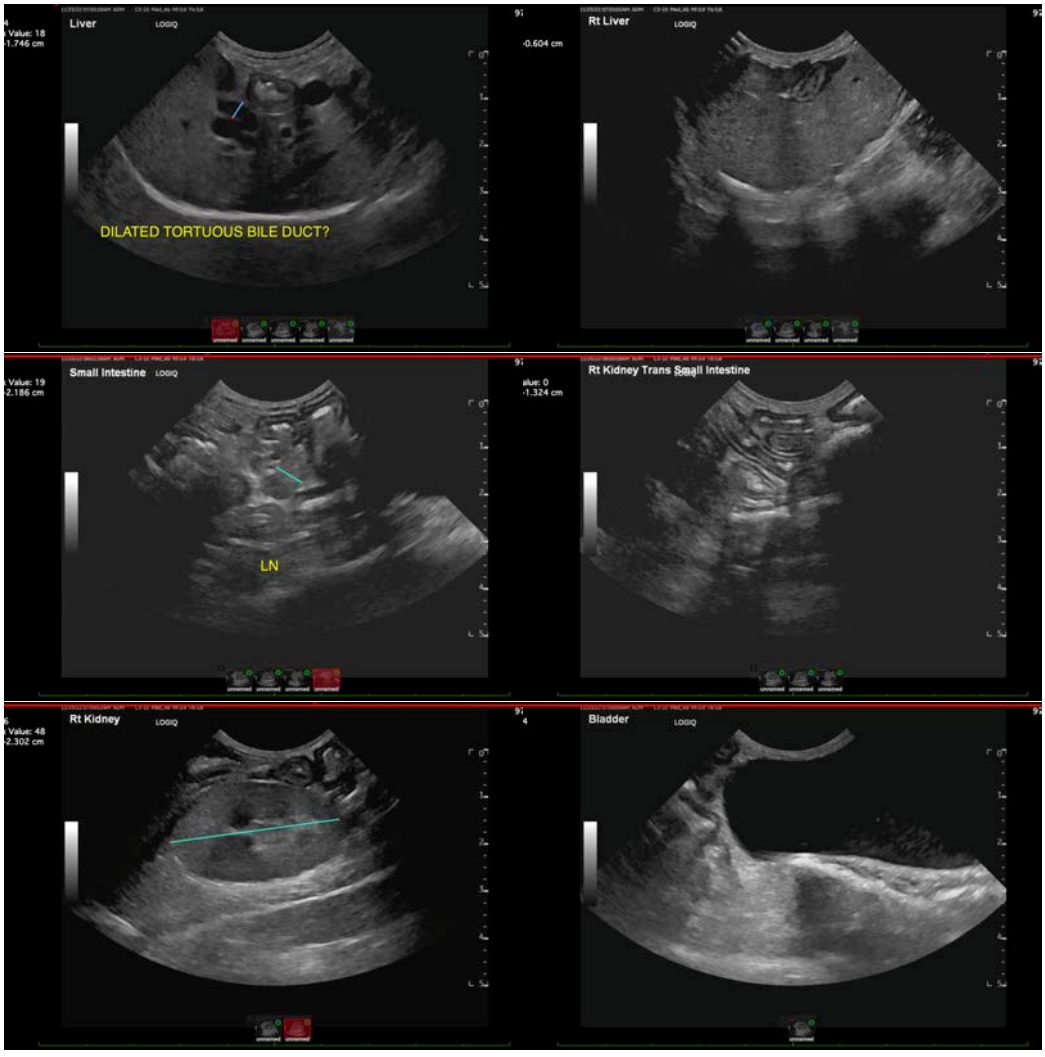
Potential Causes of Diabetic Dysregulation

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

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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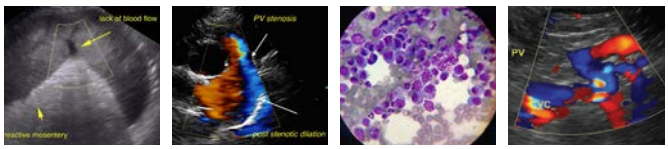

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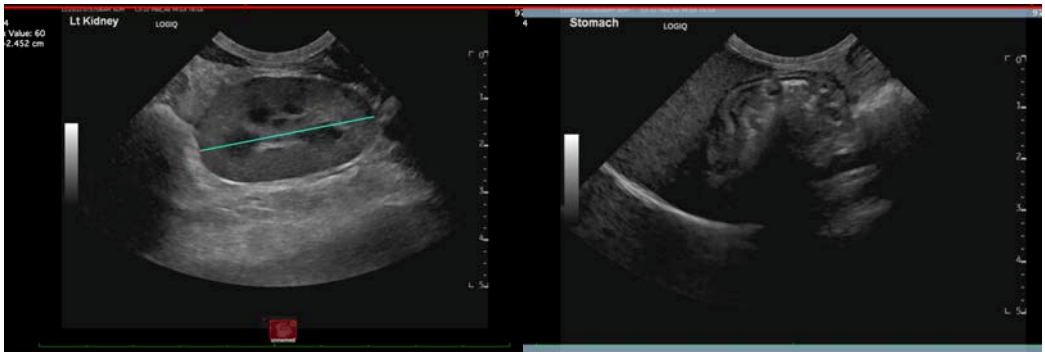

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com