



PATIENT

Dudley Blake

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Neutered male

AGE

15 years

WEIGHT

14 lbs

INTERPRETED BY

Eric Lindquist, DMV,
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

VCA Salem AH

REFERRING VET

Dr. Tremper

DATE

12/2/21

Invoice
94294

PRESENTING CLINICAL SIGNS

History: Long term diabetic and CKD patient with vomiting and intermittent inappetence for last 1-2 weeks (has had previous episodes of GI upset in the past, will respond to symptomatic management), weight stable since September's visit, tense and painful abdomen on exam today, blood collected for senior screen and fructosamine level today (last full panel ran in May) Stable heart murmur Current Medications 2 units lantus BID, prescription renal diet; just started cerenia, mirtazapine and buprenex
Abnormal PE/Chem/CBC/UA Results: Radiographic Findings Radiographs performed in June 2020 revealed pancreatic nodule, hepatomegaly- report to be emailed

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** was overdistended with a moderate amount of debris that can be normal in cats; however, assessment for any inflammatory sediment is indicated. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.

The iliac trifurcation was unremarkable with normal color flow filling.

The **left kidney** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. The left kidney revealed multifocal, cortical infarcts. Pelvic and corticomedullary mineralization was noted. The left kidney measured 3.78 cm with regional cortical collapse.

The **right kidney** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 4.26 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 0.39 cm. The left adrenal gland measured 0.37 cm.

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. The spleen measured 0.7 cm.



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The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

Gastrointestinal

The **gastrointestinal** presentation revealed mild uniform prominence of the gastric mucosa as well as areas of "ropey" small intestinal wall. The muscularis layer was hypertrophied inverting the normal ratio (1:3). The intestinal submucosa was slightly irregular, thickened and hyperechoic suggestive of low grade, chronic inflammation. There were some areas of mucosal fogging in the small intestine. This may be related to malabsorption of nutrients. No evidence of obstruction was present. Chronic inflammatory bowel disease is probable with a low possibility of an early neoplastic event such as lymphoma or, less likely, dry form FIP can at times be found on biopsy of these presentations. Full thickness tissue biopsies via open laparotomy, ideally guided by intraoperative ultrasound in order to obtain the most representative mural sample, would be necessary to rule out more significant disease than IBD.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

ULTRASONOGRAPHIC FINDINGS

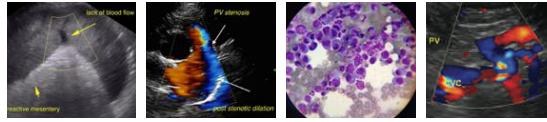
Mild chronic GI changes. Likely related to inflammatory bowel. No loss of mural detail even though muscularis hypertrophy was present in the GI tract.

Geriatric hepatic changes.

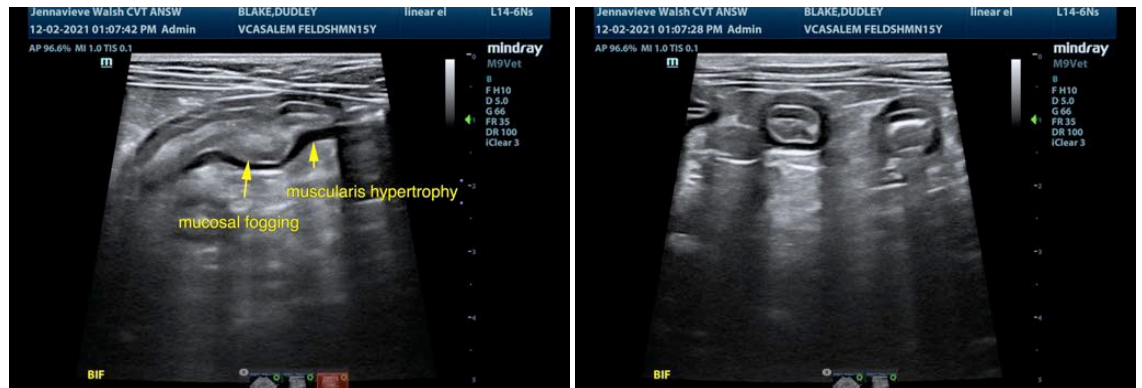
Mild to moderate chronic interstitial nephrosis pattern in the left with cortical infarcts and cortical collapse. The cortical collapse and infarct is likely owing to calculus movement and a "comet tail infarct".

Mild to moderate degenerative changes on the right kidney.

Minor pancreatitis may be playing a role in this patient given the chronic changes. However, the changes were relatively minor.



PATIENT	<u>INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS</u>
Dudley Blake	Full thickness GI biopsies would be necessary for further definition.
SPECIES	Potential Causes of Diabetic Dysregulation
Feline	This is a suggestive checkoff list when faced with an unregulated diabetic patient:
BREED	UTI
Domestic Shorthair	Dietary indiscretion/intolerance
SEX	Pancreatitis
Neutered male	Hyperthyroidism/hypothyroidism
AGE	Exogenous steroids (including topical eye meds)
15 years	Cushing's
WEIGHT	Acromegaly
14 lbs	Owner compliance
INTERPRETED BY	Insulin quality issues
Eric Lindquist, DMV, DABVP, Cert. IVUSS	Antibodies to insulin
IMAGING PERFORMED BY	Underlying Neoplasia
Jenna Walsh, CVT	Diffuse liver disease
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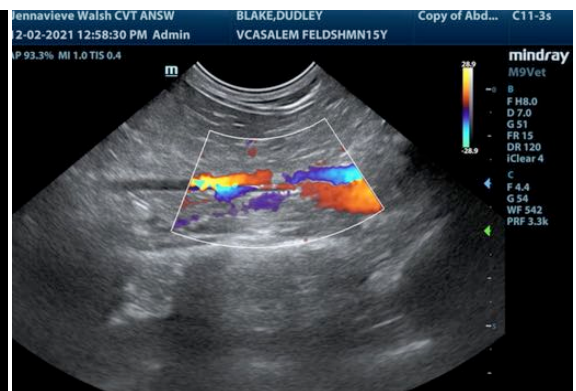
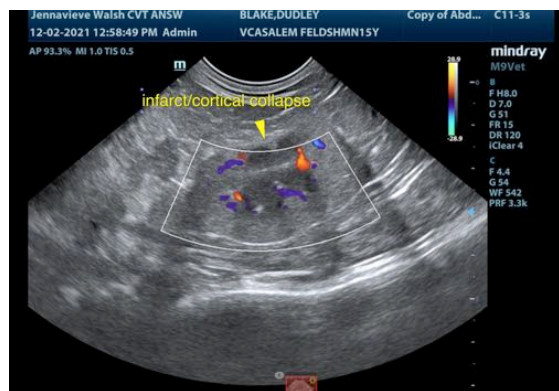
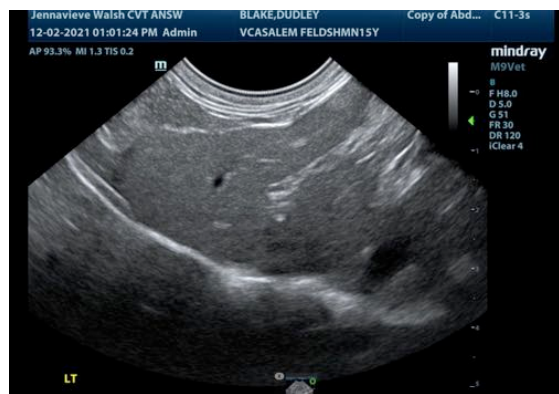
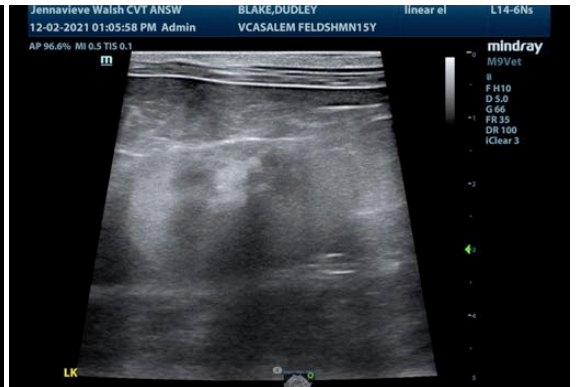
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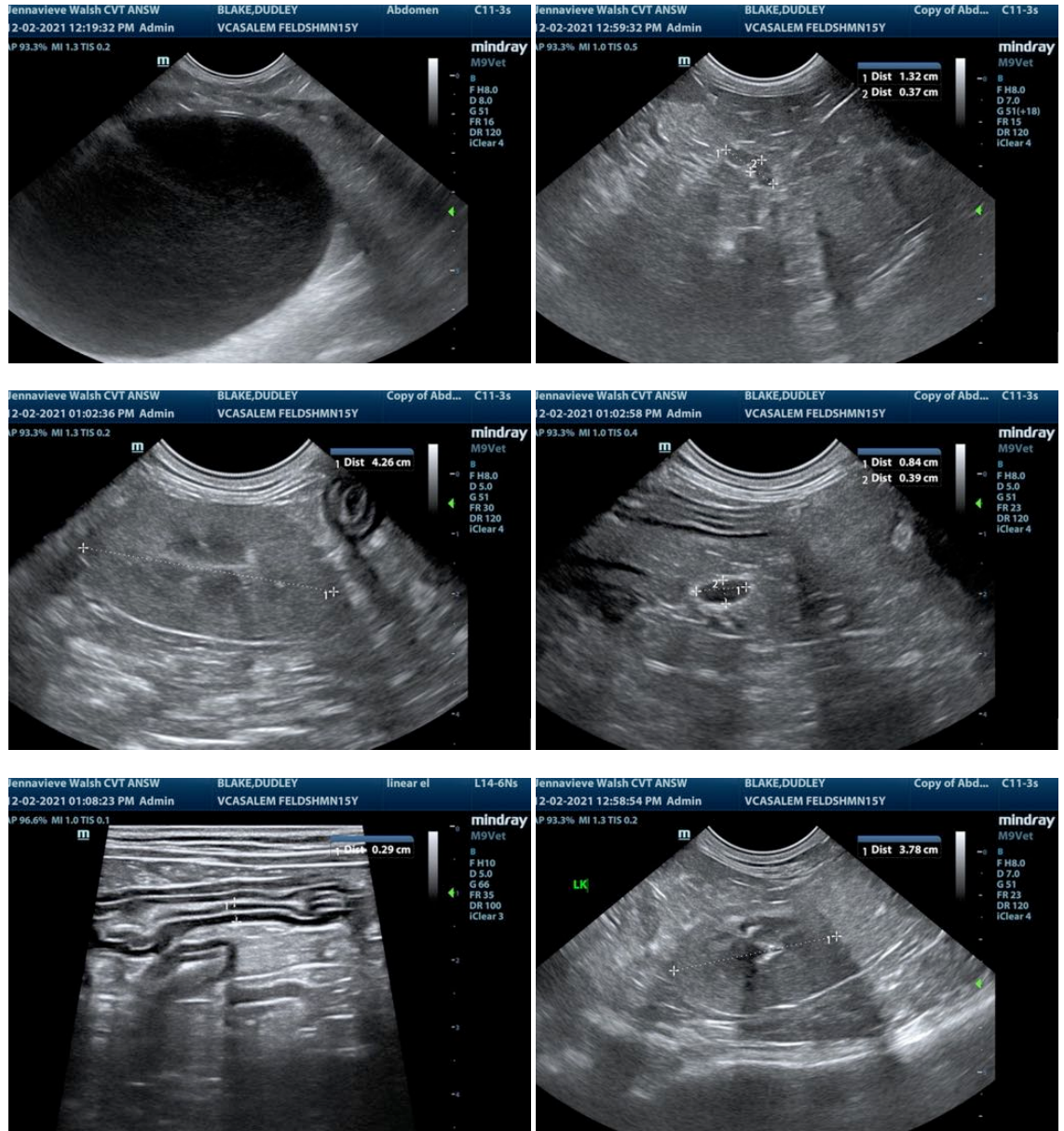
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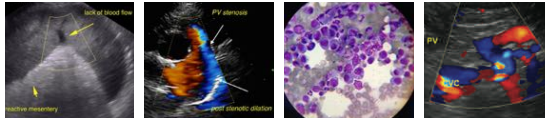


The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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



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Eric.Lindquist@SonoPath.com

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