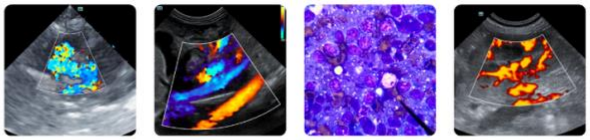


PATIENT

Luna Calo

SPECIES

Canine

BREED

Mixed

SEX

Spayed Female

AGE

5 Years 9 Months

WEIGHT

23.8 pounds

INTERPRETED BY

Dr Brittany Sinclair, BVSc(hons), DACVECC

IMAGING PERFORMED BY

Dr. Gabriel Ferrer DVM

HOSPITAL NAME

Pulse Pet Ultrasound Services

REFERRING VET

Dr. Mario Roman

INVOICE

12706

DATE

12/16/25

PRESENTING CLINICAL SIGNS

Pt presented as a referral for an abdominal u/s to evaluate hx of vomiting and anorexia. Bloodwork and urinalysis were performed on Luna which revealed a severe azotemia and hyperphosphatemia. Additionally abdominal radiographs were performed by rDVM and submitted to the radiologist for consultation which revealed a possible diaphragmatic growth vs diaphragmatic hernia, although no other obvious underlying cause for Luna's symptoms was noted. Luna was hospitalized yesterday for continuous IV fluid therapy, supportive care and a phosphate binder, although on re-check bloodwork her values were worse. Luna remains anorexic and additional diagnostics including an abdominal ultrasound was recommended to assess the kidneys, the possible diaphragmatic hernia vs growth, as well as a possible underlying cause for her symptoms.

Abnormal PE/Chem/CBC/UA Results: Bloodwork: BUN over 130, CREA so high it was out of range
Radiographs attached as supporting documents.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, and visible pelvic urethra were of normal thickness. The ureters were not visible which is normal. There was normal wall layering with no masses, uroliths or abnormal thickening visualized. Urine was anechoic. No evidence of inflammatory or neoplastic changes were noted.

The kidneys have a smooth capsule and with mild hazing of corticomedullary definition. No evidence of pelvic dilation was present. The right renal cortex is hyperechoic. The right kidney measured 4.69 cm in length. The left kidney measured 4.69 cm in length.

Adrenal Glands

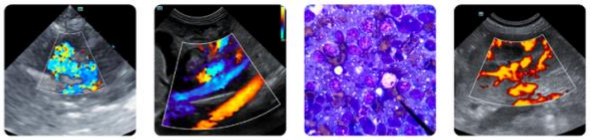
Both adrenal glands were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 1.96 cm in length and 0.42 cm at the cranial pole and 0.42 cm at the caudal pole. The right adrenal gland measured 2.11 cm in length and 0.53 cm at the cranial pole and 0.42 cm at the caudal pole.

Spleen

The spleen was normal with a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma and smooth capsule, with normal splenic vasculature with no signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarct changes were noted.

Liver

The liver is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. There is a portion of liver which appears to be herniated through the aortic hiatus into the pleural space.



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The gall bladder is moderately distended with anechoic fluid, with a very mild amount of hyperechoic non-shadowing debris present. There is no surrounding free fluid or signs of active inflammation.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness with some variability due to the presence of rugal folds. The distinction of the gastric wall layers 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. 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 base and limbs of the pancreas were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour and parenchyma were normal. No overt evidence of active inflammatory or neoplastic disease was noted.

Lymph Nodes

No clinically significant lymphadenopathy or abnormalities noted.

ULTRASONOGRAPHIC FINDINGS

- Mild degenerative renal changes with hyperechoic right renal cortex.
- Herniation of a small portion of the liver through aortic hiatus- likely incidental.
- Mild gallbladder debris- incidental.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Kidneys show very mild degenerative aging changes. The right renal cortex is hyperechoic which together with severe azotemia is likely a result of acute nephritis. While this is most often seen bilaterally, the left kidney does not show the same degree of hyperechogenicity but is not functioning normally given the severity of the azotemia. Progression of chronic renal disease, toxin exposure, leptospirosis, bacterial pyelonephritis, other infectious insults, recently resolved ureterolithiasis, among other things are possible. Severe azotemia is the likely cause of reported vomiting and anorexia.

Additional diagnostics to be considered include urine culture (even if no bacteria on UA), leptospirosis testing, and careful questioning for the possibility of exposure to renal toxins (NSAIDs, grapes/raisins, cream of tartar, tamarind, vitamin D, rodenticide, etc.). Doppler blood pressure measurement is recommended to screen for hypertension which can be present in both acute and chronic renal disease and worsens renal function. A baseline cortisol +/- ACTH stimulation test is recommended to rule out hypoadrenocorticism as a possible cause.

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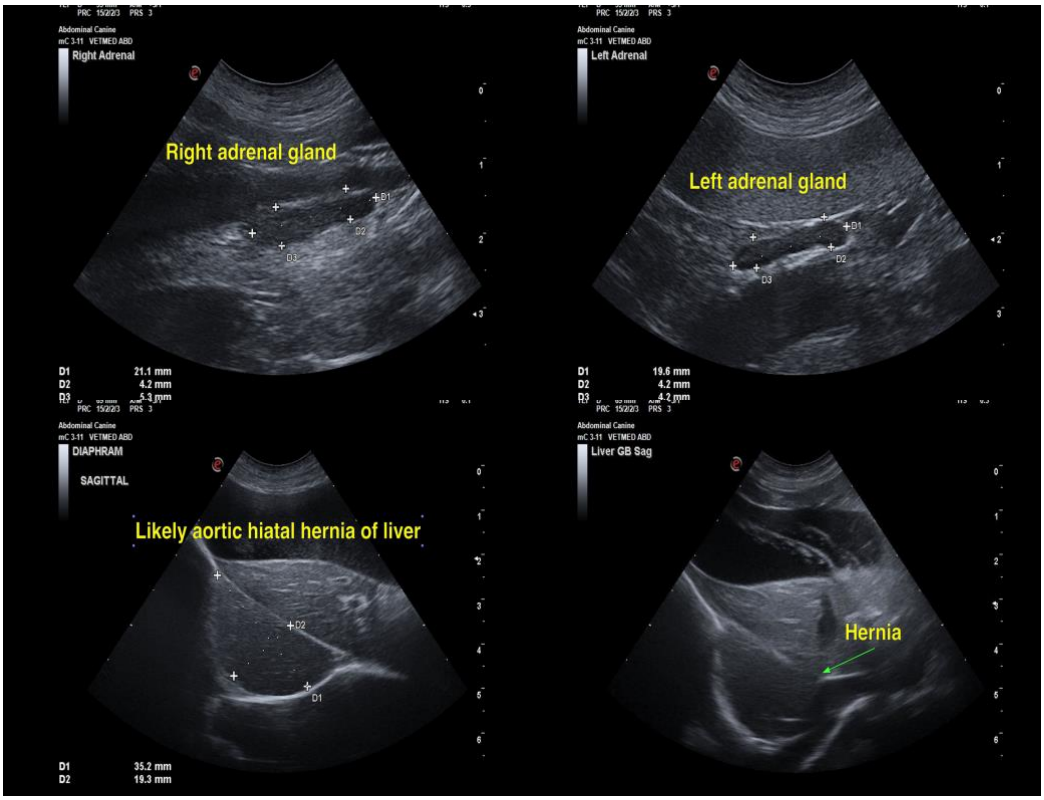
Treatment with intravenous fluid therapy, GI support as needed including enteral nutrition and monitoring for improvement or resolution of azotemia every 24-48 hours is recommended. Antibiotics are reasonable while awaiting infectious disease testing.

If azotemia fails to resolve with fluid therapy, permanent renal dysfunction is likely. Management for any patient with chronic renal dysfunction includes renal specific diet (protein and phosphorus limited), encouraging increased water intake with canned food and providing clean, running water source, and management of proteinuria and hypertension with ACE-inhibitor with addition of more anti-hypertensives as required. Monitoring of bloodwork, urinalysis and blood pressure every 3-6 months, or sooner if feeling unwell, is recommended.

There does appear to be a hernia at the aortic hiatus which appears to involve a small amount of liver tissue. This is considered unlikely to be the cause of acute vomiting. Abdominal CT and/or abdominal explore could be considered to further evaluate and repair the hernia though this is not strongly recommended given the severity of the azotemia and the low likelihood that this is the underlying cause of the clinical signs.



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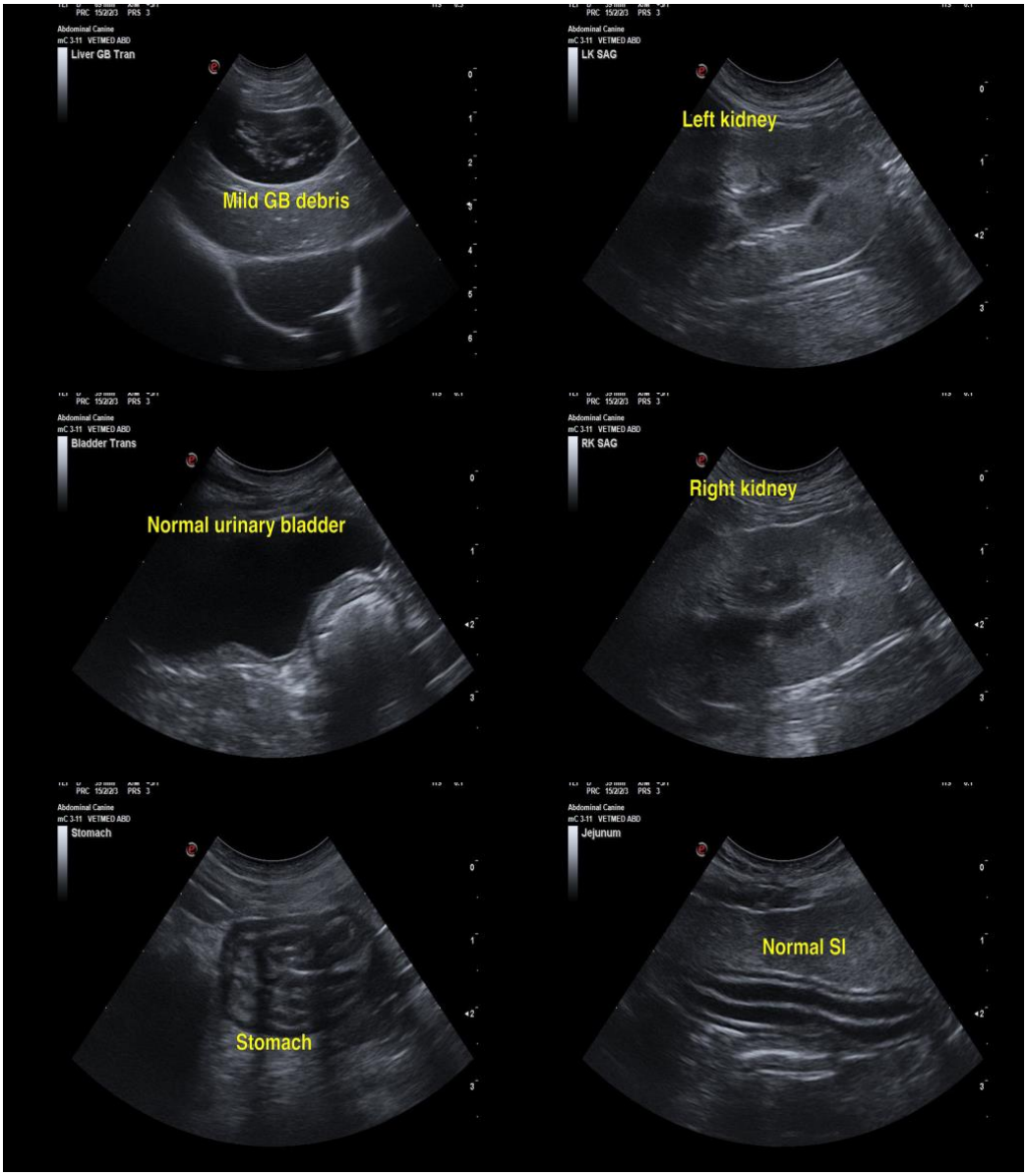

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Dr Brittany Sinclair, BVSc(hons), DACVECC

info@SonoPath.com