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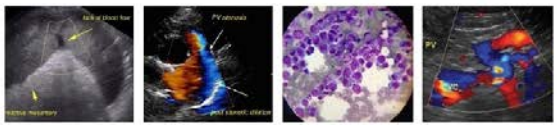


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

May Baker

SPECIES

Feline

BREED

Maine Coon

SEX

Spayed Female

AGE

3 Years

WEIGHT

4.12 kg

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Hamilton Region Emergency Clinic

REFERRING VET

Dr. Bourque

INVOICE

39053

DATE

6/24/22

PRESENTING CLINICAL SIGNS

Was also @ rDVM yesterday ADR, hyporexia 3 days, increased resp rate when sleeping. No vomiting. No diarrhea. Drank a lot of water, then urinated. Lethargic/reclusive behaviour. Dull. depressed. Dehydrated 6-8%. Cranial abdominal pain. Otherwise unremarkable. IV fluids. mirtazapine, maropitant, methadone, pantoprazole. Had famotidine yesterday from rDVM, but now DC and using pantoprazole. Abnormal PE/Chem/CBC/UA Results: Please see attached rads. Yesterday @ rDVM Healthgene: Urea 28.2 Hi 5.0 - 13.0 mmol/LCreatinine 570 Hi 50 - 180 umol/LCreatine Kinase (CK) 1811 Hi 25 - 336 U/LAmylase 2061 Hi 460 - 1650, mild stress hyperglycemia Today here @ HREVC IDEXX: Creatinine 1,002 71 - 212 µmol/L Urea (BUN)32.9 5.7 - 12.9 mmol/L, Urine: Specific Gravity 1.016 pH 7.0 Urine Protein500 mg/dL Glucose50 mg/dL Cardiac proBNP normal FeLV FIV negative 3 views of abdomen taken at rDVM yesterday. The VD was not ideally positioned, so did only that view today. Kidneys look prominent/enlarged with mineralization or stone.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is very well distended. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. There are no signs of hydroureter at the level of the ureterovesicular junctions. A small to moderate amount of free floating sediment is present, without evidence of cystoliths, polyps or a mass. There is no evidence of an obstruction at this time.

Kidneys

The **left** kidney measures 3.61 cm (3.80-4.40 cm). It is slightly round in shape, however, the capsule is smooth. The cortex is mildly hyperechoic, i.e., it is isoechoic to the spleen. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. An accumulation of intrapelvic fat is noted. Occasional mineralizations are present at the level of the diverticulae and pelvis, without signs of nephroliths, pyelectasia or hydroureter. The surrounding mesentery is very mildly hyperechoic at certain angles.

The **right** kidney measures 3.95 cm (3.80-4.40 cm). The capsule is smooth. The cortex is mildly hyperechoic. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. An accumulation of intrapelvic fat is noted. Occasional mineralizations are present at the level of the diverticulae and pelvis, without signs of nephroliths or pyelectasia. Very mild hydroureter is observed proximally, but cannot be followed and there are no signs of a ureteroliths within the dilated portion of the ureter. Mild acoustic enhancement of the surrounding mesentery is present, suggestive of inflammation.

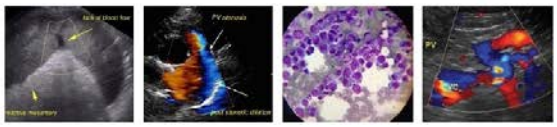
Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.31 cm. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.41 cm. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.



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Spleen

The spleen is within normal limits in width 9.1 mm (normal = 10 mm), however, subjectively, it appears larger in length. Echogenicity is considered within normal limits. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. A mild to moderate miliary echotexture is suspected with the convex probe, however, it is not as evident with the linear probe. The echotexture may not be clinically significant or may be due to very subtle extramedullary hematopoiesis.

Liver

There are no obvious signs of hepatomegaly and its borders are smooth, but mildly rounded. The liver's echotexture is homogeneous, but diffusely hyperechoic, i.e. it is isoechoic to the spleen. Focal lesions are not observed. There are no signs of a portal systemic shunt or other abnormalities observed with the hepatic vessels.

The gallbladder (GB) is mildly dilated (consistent with a fasted individual). A very small amount of echogenic material is present within the GB. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.

Gastrointestinal

A large of amount of gas is present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined.

A large amount of gas is present in the small intestines and transverse colon. Peristalsis appears ineffective i.e. a "to and fro" motion is observed.

The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. No abnormalities are observed with the ileocecal colic junction. Abnormally dilated loops of bowel are not observed.

The colonic wall is not thickened and mural detail is considered normal.

There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.

Pancreas

The pancreas is not enlarged and its contours are smooth and regular, however it is mildly hypoechoic, with mild to moderate hyperechogenicity of the surrounding mesentery. Although not "severe" sonographically, active pancreatitis is suspected.

Other

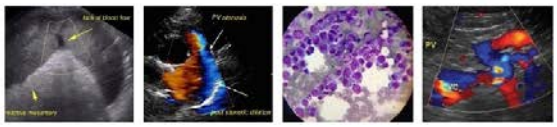
Lymph nodes

No abnormalities are observed

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Kidneys:** Occasional mineralizations and an accumulation of fat are noted in the **left** kidney, without signs of an obstruction. The right kidney also shows occasional mineralizations and fat, in addition to very mild hydroureter proximally. Ureteroliths are not visualized within the dilated portion of the ureter and the hydroureter cannot be followed after a few centimeters. Inflammation of the surrounding mesentery is noted bilaterally. Bilateral pyelonephritis and



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mild pyonephrosis of the right kidney are possible causes. Other differential diagnoses include exposure to a renal toxin, such as lilies, as well as leptospirosis, if May goes outdoors. Glomerulonephritis may also cause the renal changes (see below).

- **Urinary bladder**: Obvious signs consistent with an obstruction are not appreciated. Signs of an infection or cystoliths are not identified. The enlarged urinary bladder may be due to the administration of intravenous fluids. May may be avoiding using her litter box if she has an aversion to the type of litter and/or size of litter box being offered.
- *In conclusion, there are no indications at this time to pursue an interventional procedure to relieve an obstruction.*
- **Pancreas**: Although the sonographic signs are mild, active pancreatitis is suspected. Note, the severity of sonographic signs do not correlate with the severity of clinical signs. Furthermore, a delay in sonographic signs may occur in relation to clinical signs.
- **Spleen**: Extramedullary hematopoiesis and/or splenitis may be present based on the subtle changes observed. It is also possible that the changes observed are not clinically significant.
- **Liver:** Hepatic lipidosis may be responsible for the diffuse hyperechogenicity. Cholangitis/cholangiohepatitis must also be considered, including a secondary bacterial infection.
- **Gastrointestinal tract**: A mild ileus is suspected.
- Note, underlying "triaditis" cannot be excluded, despite the absence of gastrointestinal abnormalities on today's abdominal ultrasound. Further investigation with the client regarding vomiting and diarrhea, as well as signs of gastroesophageal reflux disease (GERD), from the client is suggested.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

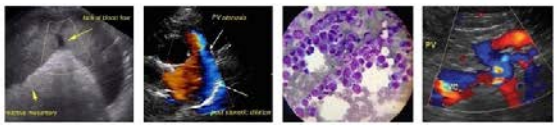
Antibiotics may have already been started and a culture may not be possible. If this is the case, enrofloxacin is suggested.

If a culture has been performed and is negative, a urine protein: creatinine ratio may be considered in a few weeks, depending on May's clinical status, i.e. once systemic inflammation has resolved to avoid a false positive result.

Continue analgesia for visceral pain. Continuous rate infusions of combined lidocaine and ketamine may be considered if ileus persists with administration of high doses of opioids.

+/- gabapentin, once no longer anorexic/hyporexic

Supportive care (pantoprazole IV, maropitant IV, mirtazapine (Miratax to avoid oral medications (nausea), etc.)



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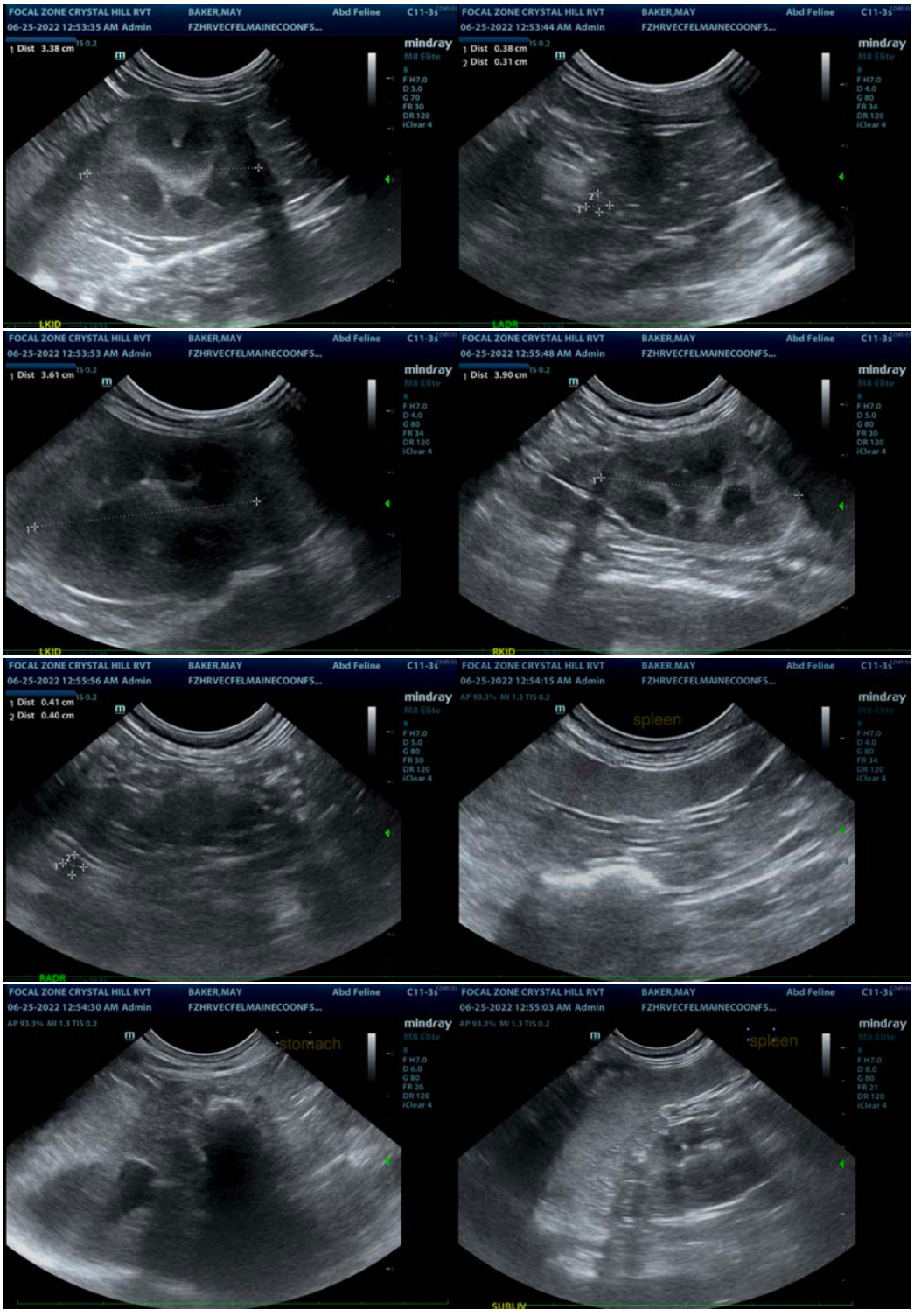
Cholangitis/cholangiohepatitis and cholecystitis cannot be excluded, including a secondary ascending bacterial infection. Although indiscriminate use of antibiotics is not normally recommended, one could start treatment with a broad-spectrum antibiotic if an improvement is not observed with the above therapies.



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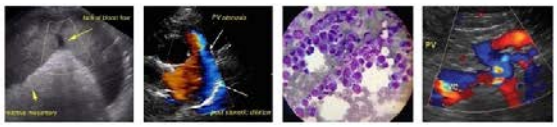

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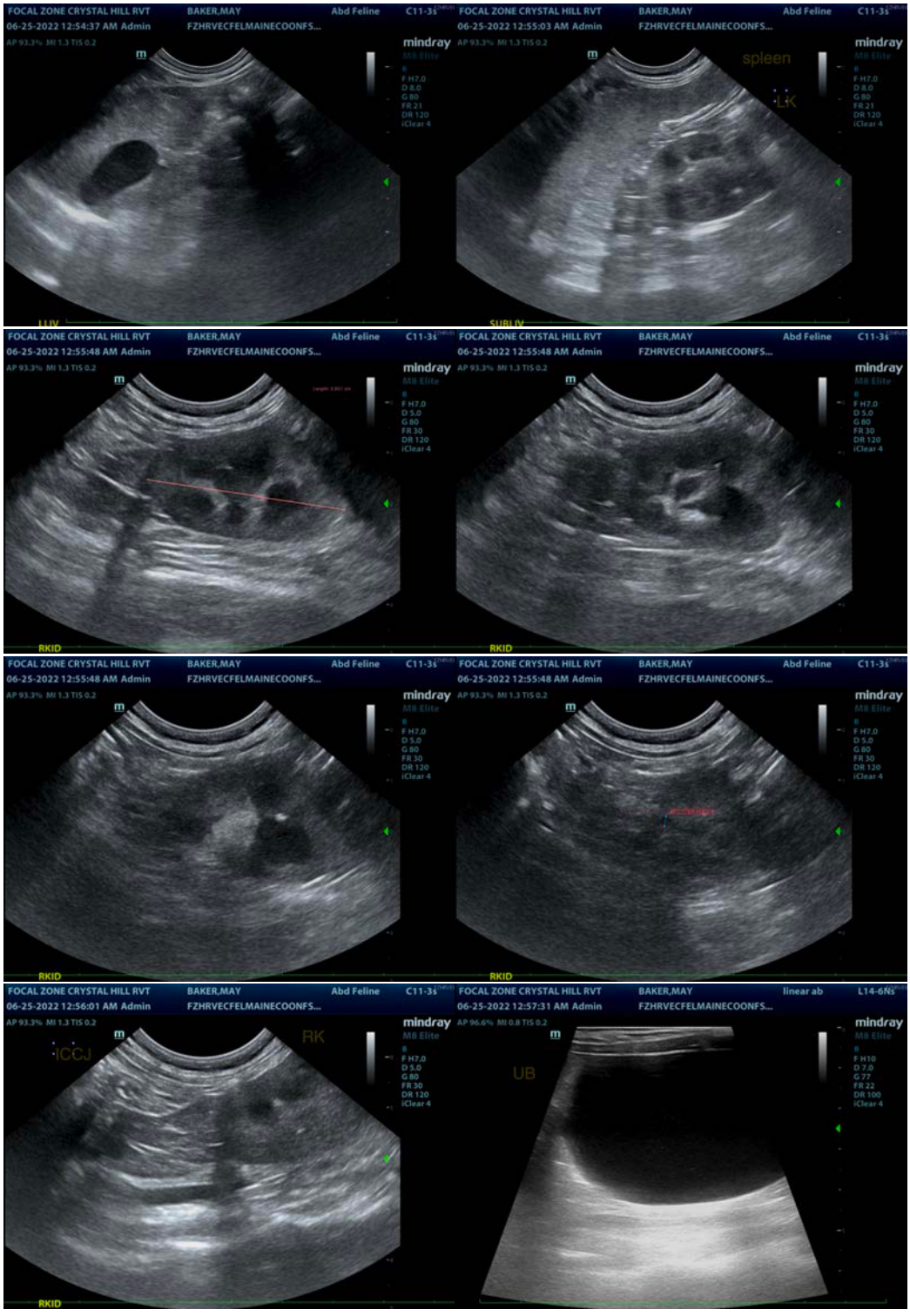

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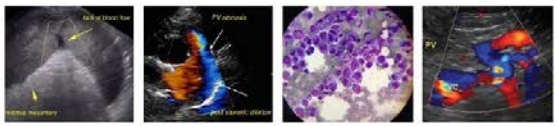

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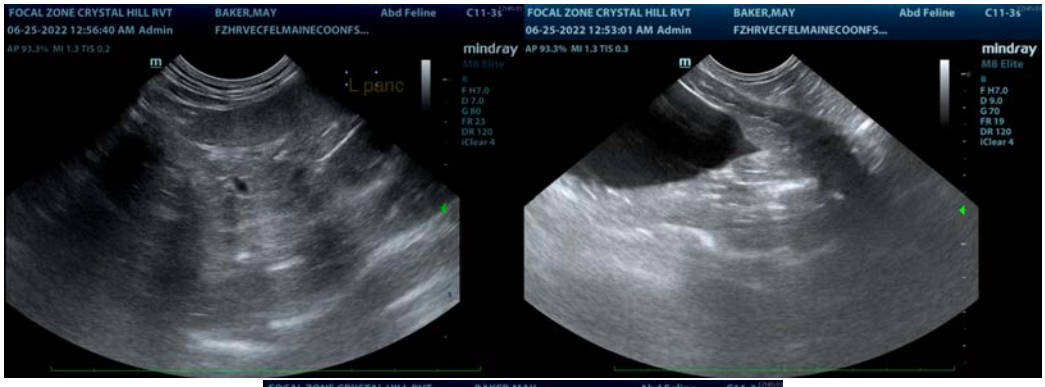

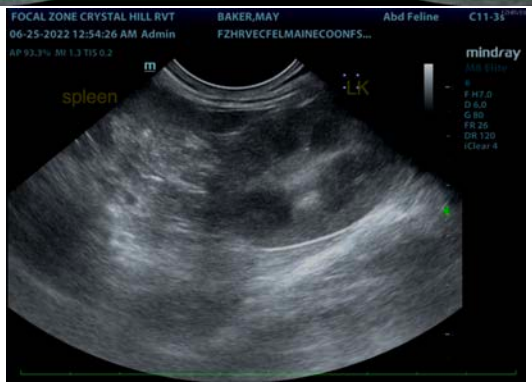

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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