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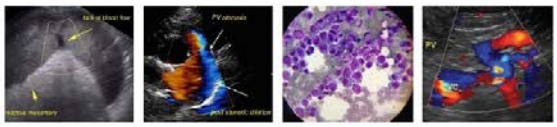


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Shelby Scime

SPECIES

Canine

BREED

Maltese X

SEX

Spayed Female

AGE

12 Years

WEIGHT

6 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Grand River VH

REFERRING VET

Dr. Robinson

INVOICE

43930

DATE

1/4/23

PRESENTING CLINICAL SIGNS

History of IMHA in past, has been off meds for a few years. Was brought on by vaccination at that time at previous clinic. Recently seen at emergency hospital for Gastroenteritis. Owners had noted increased drinking and urination (maybe better today owner said on admit) Has not been on any meds. Also noted slight lethargy and some shaking.

Abnormal PE/Chem/CBC/UA Results: Urea elevated, Tprot elevated, Globulins elevated, Cl decreased, T4 normal, SDMA elevated 19(0-14). PCV was recorded as being low at the emergency hospital. Urine specific gravity 1.015. CBC report suggestive of regenerative anemia.

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 (3.86 cm) with numerous small nephroliths and significant pyelectasia at 0.48 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 infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.44 cm) with numerous small nephroliths and significant pyelectasia at 0.47 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 infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal/borderline large in size measuring 0.75 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

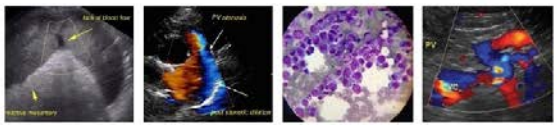
The right adrenal gland is normal/borderline large in size measuring 0.81 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous ill-defined hypoechoic nodules throughout the parenchyma measuring between 0.50-1.5 cm. Additionally, there are numerous pinpoint mineralizations within the parenchyma, most consistent with intrahepatic biliary stones.



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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm 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. Jejunum wall measures 0.25 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 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, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Borderline bilateral adrenomegaly – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.

- Decreased corticomedullary distinction in both kidneys with small nephroliths and bilateral pyelectasia – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the kidney(s)could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Large, heterogeneous liver with numerous ill-defined hypoechoic nodules and intrahepatic biliary stones – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The nodules observed trend toward a more benign process but underlying neoplasia cannot be ruled out. Intrahepatic biliary stones can sometimes be associated with chronic inflammation.

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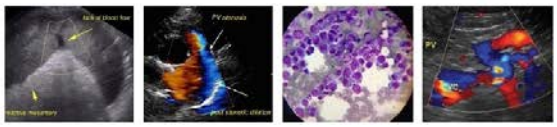

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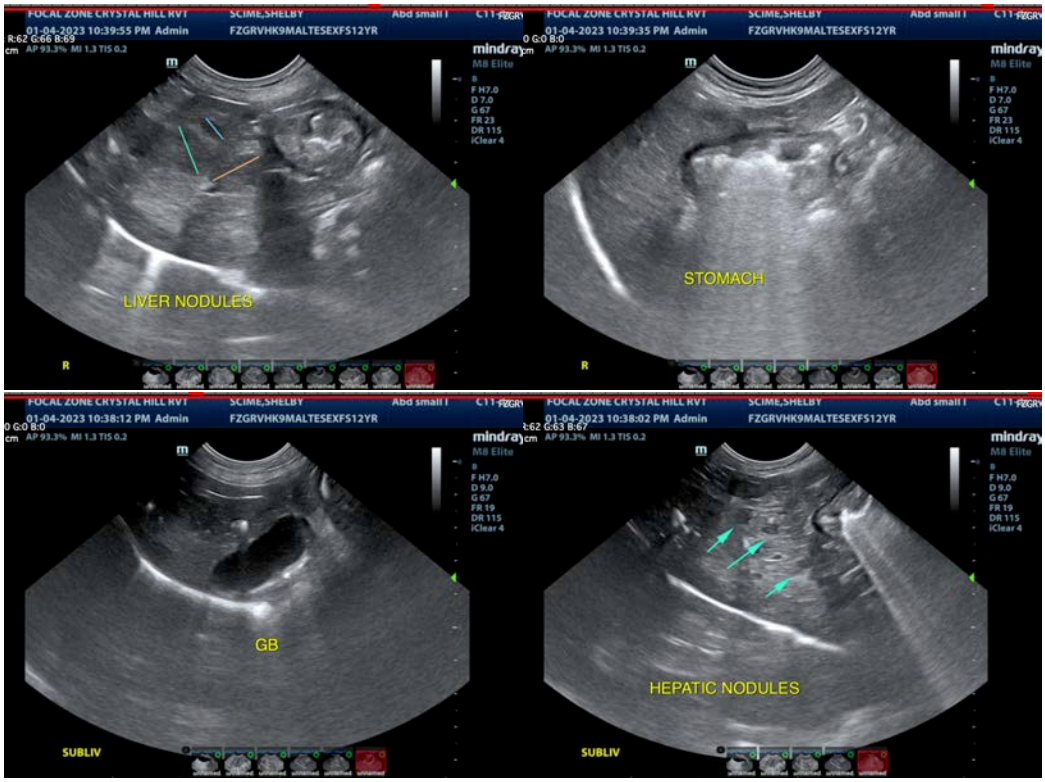
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are significant changes to both kidneys consistent with chronic progressive renal disease, nephroliths, and pelvic dilation. This could be secondary to intermittent passing of stones, a current partial obstruction not visualized on today's scan, or pyelonephritis (current or previous). Recommend a blood pressure evaluation, urinalysis and culture, and radiograph of the abdomen, looking for evidence of distal ureteral stones. Continued monitoring of the pelvic dilation is warranted.

The liver is heterogeneous and has numerous hypoechoic nodules. Some of these are more distinct and peripheral. A fine needle aspirate of one of these nodules would be helpful. Although they have a somewhat benign appearance, they do seem to be disrupting the normal architecture in some areas. Additionally, there are intrahepatic biliary stones evident, which could be consistent with chronic inflammation, cholangiohepatitis, etc., so an aspirate may be helpful in this regard as well. If liver enzyme elevations are present, consider a liver function test.

Both adrenals appear somewhat prominent for a pet of this size. The PU/PD could be secondary to urinary disease, urinary tract infection, underlying liver disease, but also could be consistent with pituitary dependent hyperadrenocorticism. If symptoms are very suspicious for this and no other significant problems are identified, you could consider adrenal function testing to look further into this possibility.

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



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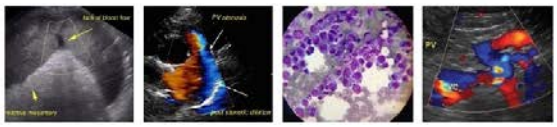

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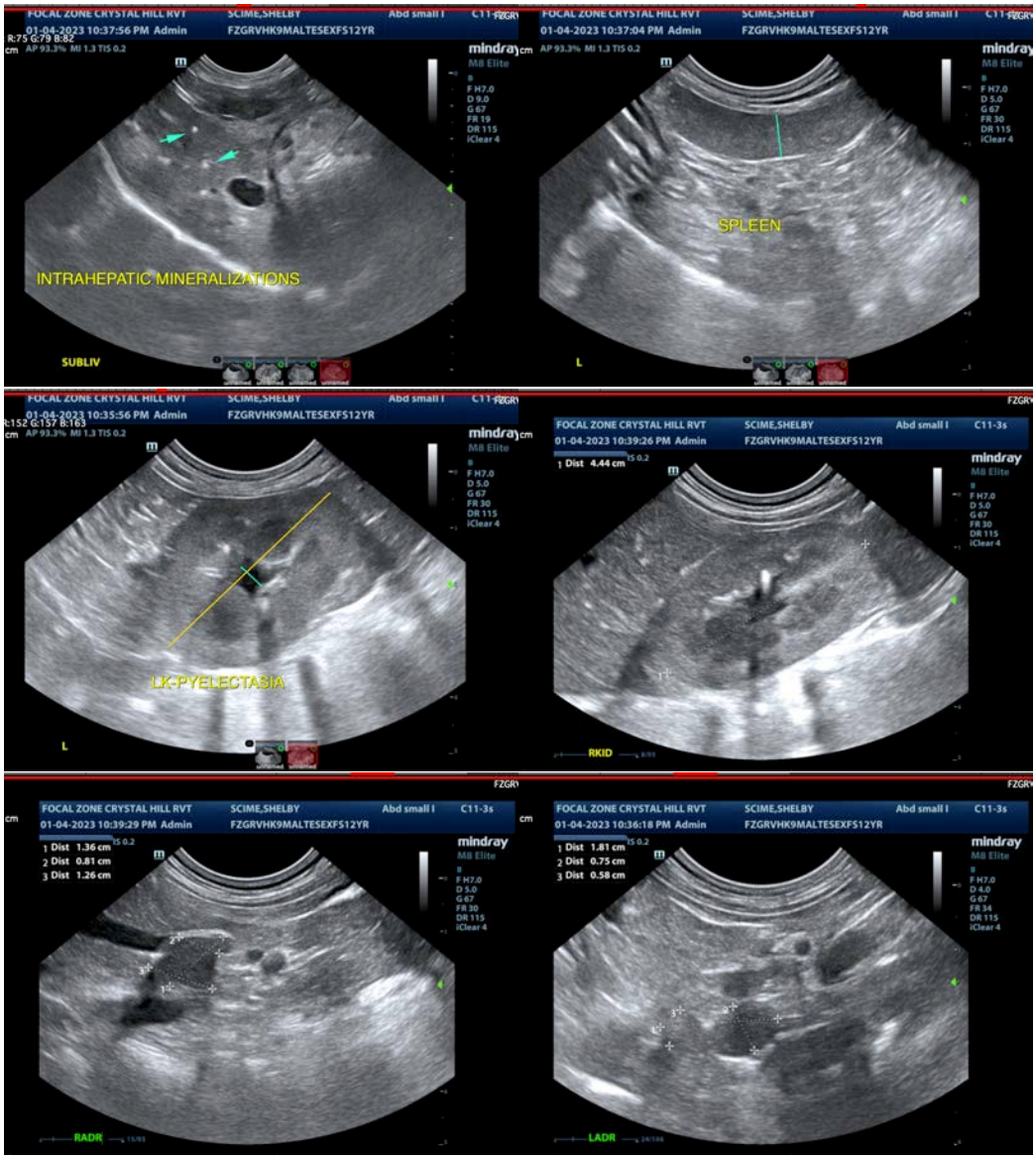

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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