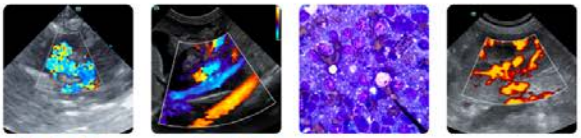

PATIENT

Truman Marsh

SPECIES

Canine

BREED

Collie x

SEX

Neutered Male

AGE

9 Years 5 Months

WEIGHT

28.5 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

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PRESENTING CLINICAL SIGNS

Historically elevated LE's that have recently progressed, accompanied w decreased appetite and energy level. Mild persistent fever. Polydipsia (recently developed). Lyme & Anaplasma (+) -prev. treated

Current Meds: Metronidazole 250mg (1/2 tab bid); Doxycycline 100mg (1 tab bid), Hepatobenefits

Abnormal PE/Chem/CBC/UA Results: ALKP-958; ALT-182; Neutrophilia-13,284; Monocystosis-1,134; UA: proteinuria (UPC-1.5); USG: 1.003, 1.009; HCT 52%; PLT 189k

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 prostate is normal in size (0.60 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (5.84 cm). Overall echogenicity is normal with adequate 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 (5.17 cm). Overall echogenicity is normal with adequate 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 left adrenal gland is normal in size measuring 0.49 cm at the cranial pole and 0.66 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.

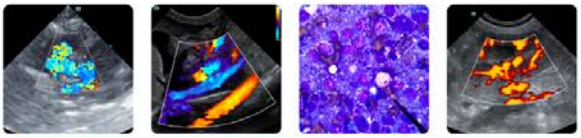
The right adrenal gland is normal in size measuring 1.0 cm at the cranial pole and 0.52 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size (1.33 cm), 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 slightly irregular in shape. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear



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normal. In the left mid caudal region of the liver there is a large, poorly defined hyperechoic region with too numerous to count hypoechoic nodules, some of these have a somewhat "target" appearance. Examples measure 0.90, 1.49, and 2.3 cm x 2.26 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and likely incidental at this time. 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. Duodenum wall measures 0.48 cm. Jejunum wall measures 0.35 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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 visible/mildly mottled in the right limb. 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

- Mild pancreatic remodeling visualized associated with the right limb of the pancreas.
- Large, heterogeneous, irregular liver with too numerous to count hypoechoic nodules, some of which have a somewhat target-like appearance – 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. Findings are concerning for possible metastatic lesions, although atypical regenerative nodules or other benign lesions are possible.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are numerous hypoechoic nodules visualized associated with the liver. They are somewhat poorly defined and are mostly observed in a somewhat hyperechoic poorly defined region in the area of the left mid caudal liver. The nature of these lesions is uncertain. Recommend a fine needle aspirate (provided coagulation parameters are normal). Additionally, consider a liver function test. There is the possibility that biopsies in this region and in the more normal/heterogeneous regions may be warranted with

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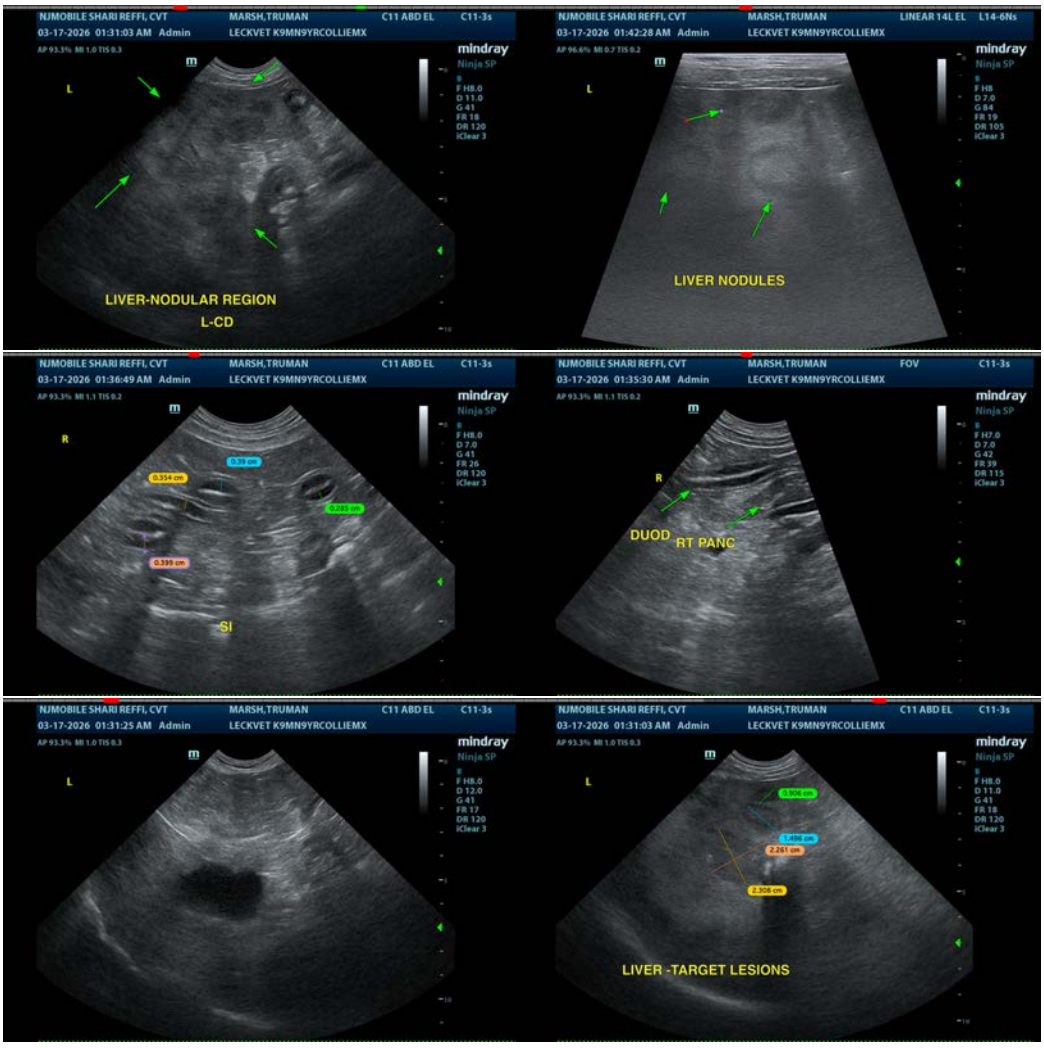
samples for histopathology, culture and copper levels, particularly if liver function is abnormal. In the meantime, you could consider treatment for acute liver injury with a course of Ursodiol, Denamarin, and antibiotics. No other obvious causes for the symptoms described is observed, although a current gastrointestinal or other condition cannot be definitively ruled out. Ultimately, a contrast CT scan of the abdomen may be helpful to better assess the poorly defined hyperechoic nodular region to determine if this represents possible surgical region, particularly if cytology is suggestive of a neoplastic process.

Additionally, if symptoms are persistent, you could consider repeat imaging in the future, looking for progression of today's lesions or the development of new lesions.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement (disregard if this has already been done).



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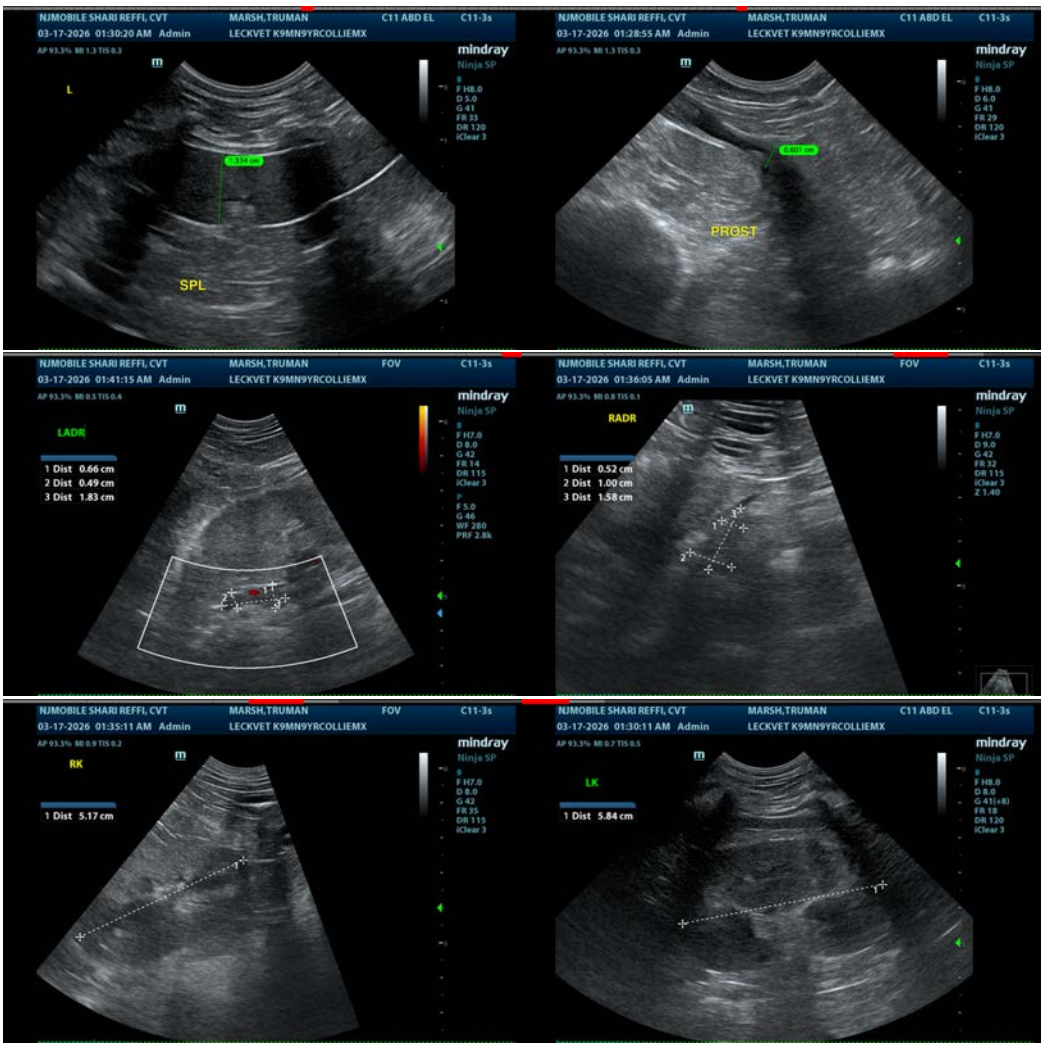

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

info@sonopath.com