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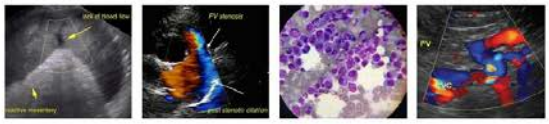

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Elsa Kilroy

SPECIES

Canine

BREED

Bernese Mtn Dog

SEX

Spayed Female

AGE

10.8 Years

WEIGHT

86.4 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Truckee Meadows VH

REFERRING VET

Dr. Rachel Kuester

INVOICE

43933

DATE

1/4/23

PRESENTING CLINICAL SIGNS

Sedation w/ dex/torb Otitis - resolved Weight loss 4lbs since 12/12/2022 Loss of muscle Chronic ALP elevation (may be further increased with recent use of Pred) Chronic proteinuria Urinary incontinence. Repeat labs obtained 12/19/22 (while on anti-inflammatory dose of Pred started 12/12) and ALP still elevated and even higher, ALT now elevated (previously normal) and persistent proteinuria. a generalized loss of muscle. Subjectively, px was resistant to palpation of RF leg, no swelling or joint effusion noted, no lameness noted by O at home. Prednisone 20 mg Started 12/12/22: 1 T PO SID x7d, then 1 T PO EOD til gone (for otitis)

Abnormal PE/Chem/CBC/UA Results: LABS attached ALT 147 (9/2022 WNL) ALP 1101 (9/2022 325) UA: USG 1.013 2+ protein UPC 1.8 (9/2022 1.1) RADs Conclusion 1/3/2023: Moderate microhepatica can be secondary to chronic liver disease. Recommend correlation with abdominal ultrasound findings. G.I. gas pattern may be due to aerophagia or nonspecific gastroenteritis. Mild right elbow osteoarthritis and flexor enthesopathy. Mild right 4th digit metacarpophalangeal joint osteoarthritis and minimal of the 5th digit metacarpophalangeal joint. Equivocal right shoulder osteoarthritis. The mineral opacity cranial to the mid diaphysis of the humerus may be superimposition artifact or mild periosteal proliferation. It has benign imaging features and is truly present may be secondary to previous trauma. Multifocal chronic IVDD. Transitional thoracolumbar junction. Normal senior thorax.

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 (7.33 cm) with a cyst in the cortex of the caudal pole measuring 0.83 cm in diameter. 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 (7.53 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 borderline large and slightly irregular, measuring 0.52 cm at the cranial pole, 1.05 cm at the caudal pole, and 2.83 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat abnormal in appearance in that there is ah hyperechoic nodule in the caudal pole measuring 1.05 cm x 1.16 cm. No evidence of vascular invasion visualized.

The right adrenal gland is normal in size measuring 0.65 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.

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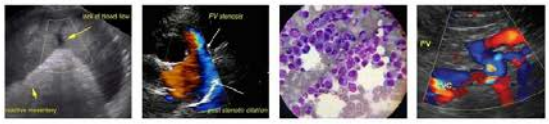

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Spleen

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. There are at least two hypoechoic nodules visualized within the splenic parenchyma, one measuring 1.96 cm x 2.28 cm. The other measures 2.8 cm x 2.72 cm.

Liver

The liver is subjectively normal in size but irregular. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a rounded liver lobe that appears slightly irregular. This could represent an atypical/rounded area of liver lobe or could represent an isoechoic mass effect. This region measures approximately 5.81 cm x 4.6 cm. There is a small hypoechoic nodule visualized within the parenchyma measuring 0.84 cm x 1.38 cm.

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 is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering 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 0.43 cm. Jejunum wall measures 0.37 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. The sublumbar lymph nodes are somewhat prominent, measuring 0.99 cm in width on the right and 1.1 cm on the left. Additionally, there are some visible mesenteric lymph nodes measuring 0.99 cm, 0.76 cm, and 1.01 cm.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

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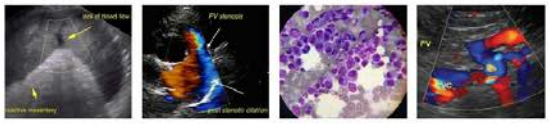

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PRIMARY FINDINGS

- Hyperechoic nodule in the caudal pole of the left adrenal gland – This is not significantly enlarged but still could represent a benign or early neoplastic lesion and could be secretory or non-secretory.
- Hypoechoic nodules visualized within the spleen – There are several, non-cavitated, hypoechoic splenic nodules visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Mildly heterogeneous liver with an irregular liver lobe (mass versus bulge) and a small hypoechoic nodule – 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 small hypoechoic lesion visualized trends towards the appearance of a benign nodule, but continued monitoring is warranted. The significant of the rounded area of liver is questionable.
- Visible/slightly prominent sublumbar lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

SECONDARY FINDINGS

- Small cortical cyst in the caudal pole of the left kidney

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a hyperechoic nodule in the caudal pole of the left adrenal gland. This is relatively small, yet could represent a benign or early neoplastic lesion and could be actively secreting hormone or be non-active. You could consider the following:

- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of cushings are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.

There are some moderate sized hypoechoic nodules/small masses within the spleen. Consider a fine needle aspirate, provided coagulation parameters are normal.

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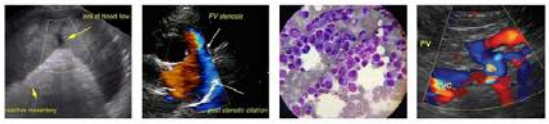

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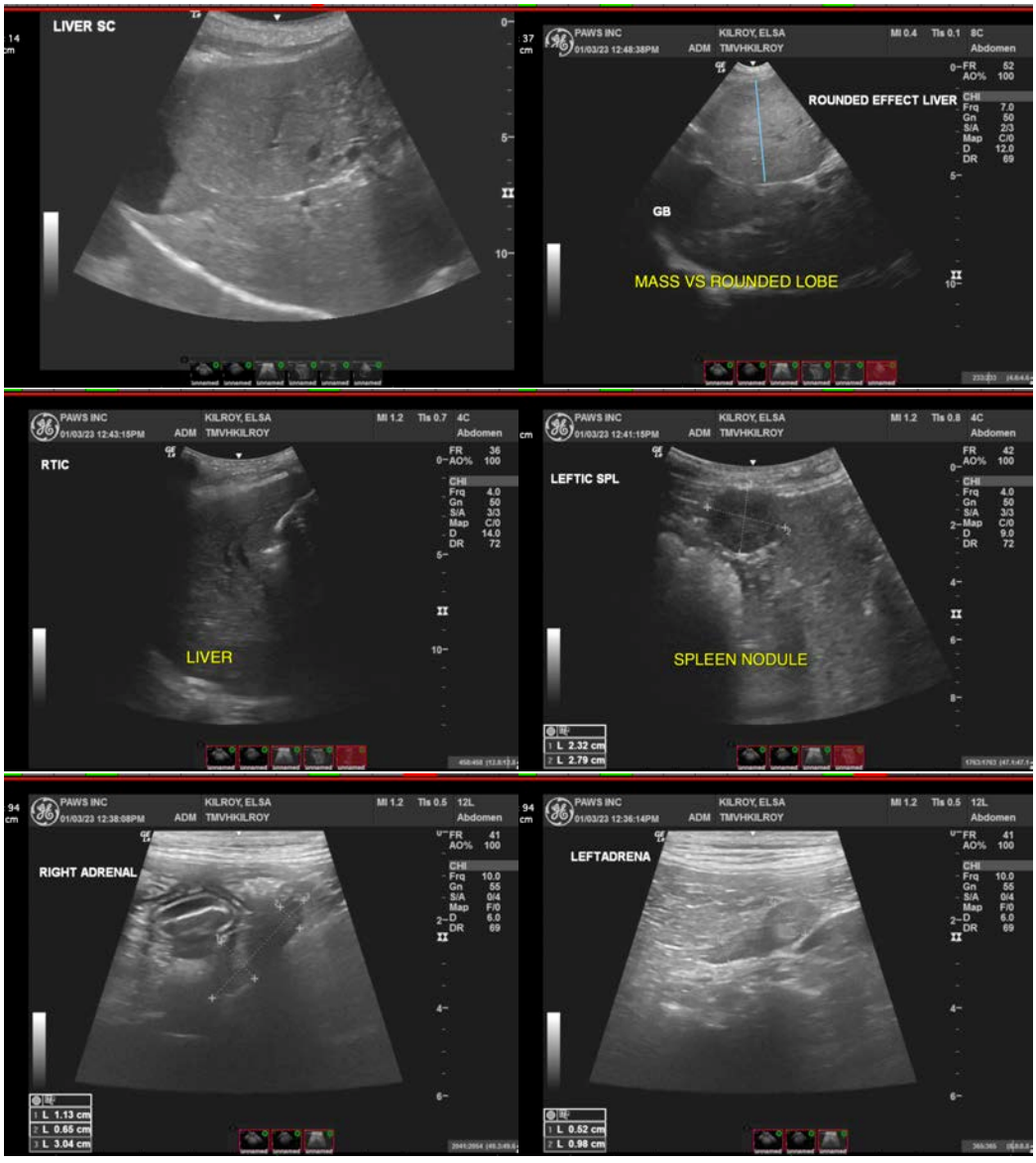
It is interesting that the radiology report notes microhepatica. Ultrasonographically, the amount of liver tissue appears adequate, but there is some irregularity, and a rounded liver lobe or isoechoic mass effect. You could consider a fine needle aspirate of the rounded liver lobe and/or a contrast CT scan to get a more global view of the liver. I would recommend weaning off the Prednisone for 2-4 weeks, rechecking blood work, a blood pressure, and if adrenal function testing is desired, it could likely be done at this point (I'd wait for 4 weeks for that). Additionally, a liver function test should be considered.

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



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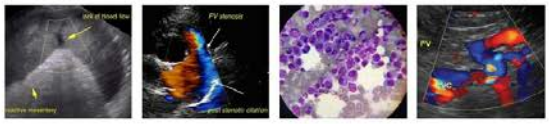

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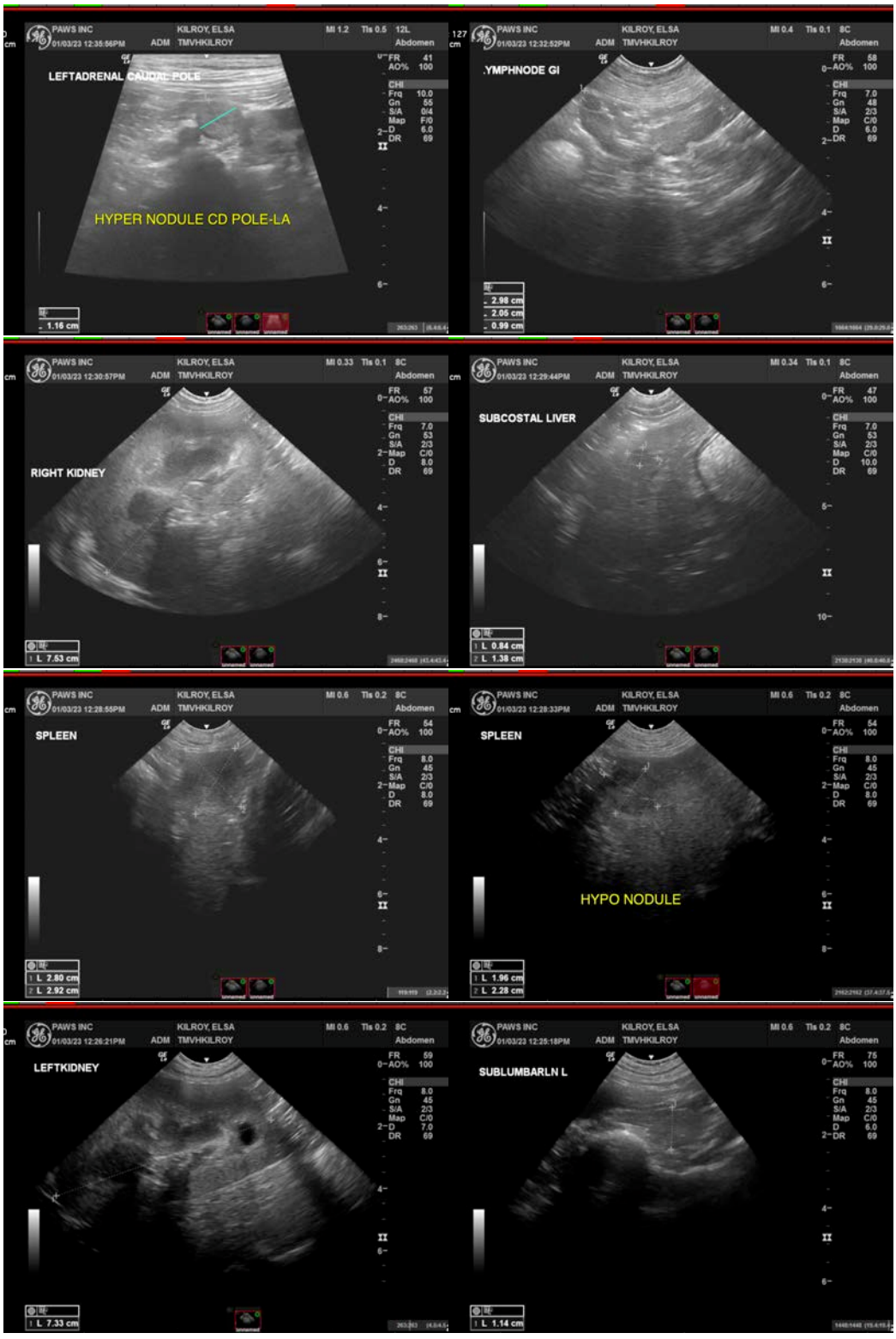

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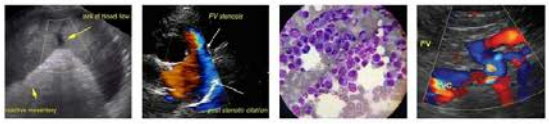

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com