



PATIENT

Piper Lindsay

PRESENTING CLINICAL SIGNS

Decreased energy for last 6 months, pu/pd, had tplo a couple of years ago. Current Medications: Fish oils. Abnormal PE/Chem/CBC/UA Results: Repeatable hypoglycemia No radiographs performed

SPECIES

Canine

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.

BREED

Labrador Retriever

The left kidney has a normal shape and size (9.0 cm). Overall echogenicity is mildly increased with decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. The parenchyma appears mottled and has hyperechoic, non-shadowing foci throughout the parenchyma, varying in size from 2-4 mm. There is no evidence of pyelectasia, infarcts or hydronephrosis. Pinpoint shadowing nephroliths are observed. Renal vasculature is normal.

SEX

Spayed Female

AGE

9.5 Years

The right kidney has a normal shape and size (7.68 cm). Overall echogenicity is mildly increased with decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. The parenchyma appears mottled and has hyperechoic, non-shadowing foci throughout the parenchyma, varying in size from 2-4 mm. There is no evidence of pyelectasia, infarcts or hydronephrosis. Pinpoint shadowing nephroliths are observed. Renal vasculature is normal.

WEIGHT

88.6 Pounds

Adrenal Glands

The left adrenal gland is large in size measuring 2.29 cm at the cranial pole, 2.58 cm at the caudal pole, and 4.82 cm in length. It is observed in its normal position cranial to the left renal artery. The appearance of the adrenal is abnormal. It is rounded and blunted, but uniformly hypoechoic. There is no evidence of a discrete nodule or mass effect, and while it impinges on local vasculature, no overt invasion is noted. Findings are most consistent with left-sided adrenal tumor or hyperplastic adrenal gland.

INTERPRETED BY

Kathleen Sennello DVM,
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(Small Animal Internal
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The right adrenal gland is large in size measuring 2.54 cm at the cranial pole, 2.0 cm at the caudal pole, and 3.62 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is somewhat abnormal and rounded in appearance. The parenchyma is mottled, but no discrete mass effect is noted. Findings are most consistent with a right-sided adrenal mass or hyperplastic adrenal.

IMAGING PERFORMED BY

Amanda Crook – SDEP
Certified Clinical
Sonographer

HOSPITAL NAME

Rivers Edge PMC

Spleen

The spleen is large in size. The spleen echotexture is severely heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a 2.6 cm hypoechoic, somewhat cavitated appearing nodule within the splenic parenchyma, which deviates the capsule.

REFERRING VET

Dr. Liz Behrenfeld

Liver

The liver is subjectively normal in size, and hypoechoic 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. No focal nodules or cystic lesions are observed.

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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 primarily anechoic. The cystic and common bile ducts are normal/not visible.

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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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 prominent and hypoechoic as compared to the surrounding isoechoic 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.

Other

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

PRIMARY FINDINGS

- Severe bilateral adrenomegaly – These changes are most consistent with bilateral adrenal tumors or bilateral adrenal hyperplasia (this seems most likely). Occasionally, metastasis to the adrenals can have this appearance.
- Decreased corticomedullary distinction in both kidneys with bilateral cortical non-shadowing, hyperechoic foci. The significance of this is unclear. This could be incidental or could represent metastatic neoplasia (seems less likely).
- Large, mottled spleen with cavitated nodule – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis. These findings are significant and concerning for a neoplastic process due to the cavitation of the nodule and deviation of the splenic capsule.

SECONDARY FINDINGS

- Hypoechoic, heterogeneous liver – 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.



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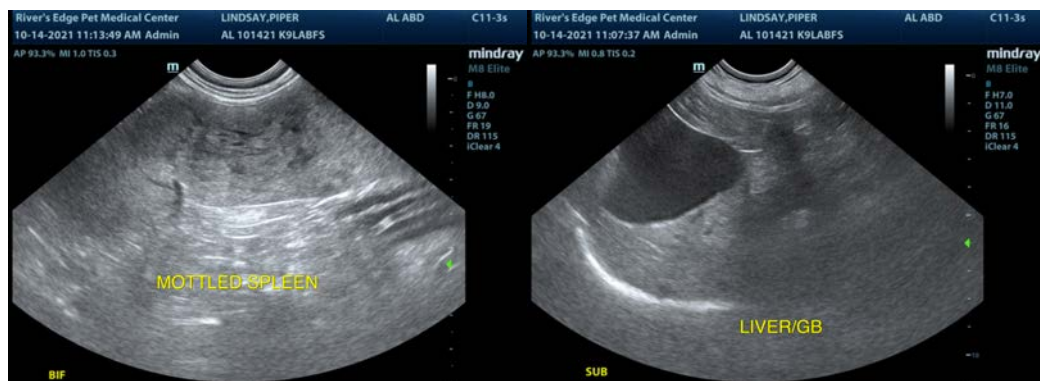
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The adrenal glands are very large and irregular in appearance. This is most likely consistent with hyperplasia secondary to PDH, but you can rarely see scenarios of bilateral adrenal tumors or metastasis to the adrenals. Recommend adrenal function testing and clinical assessment to see if Cushing's fits with the diagnosis. Additionally, the spleen is severely mottled with a hypoechoic nodule. Recommend a fine needle aspirate of the spleen.

The kidneys have hyperechoic foci of unknown significance. Recommend continued monitoring and blood pressure evaluation.

Recommend 3-view thoracic radiographs to evaluate for possible concurrent intrathoracic disease. A fine needle aspirate of the liver could be considered if liver enzymes are elevated, and/or the patient is not feeling well.



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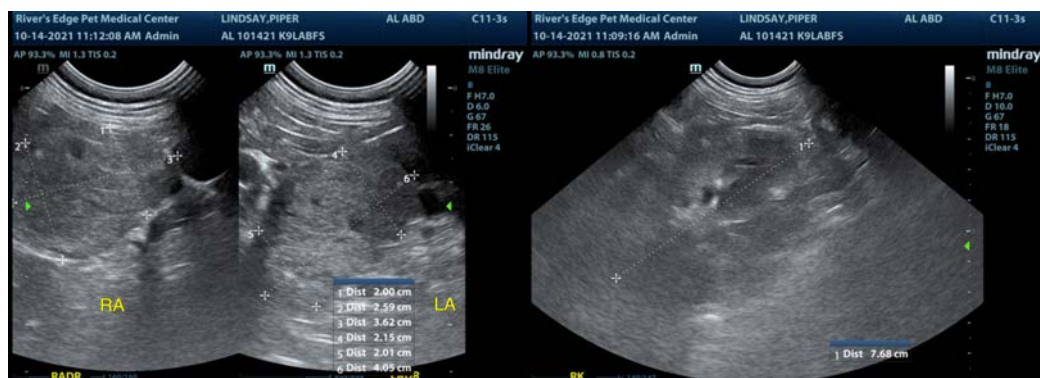
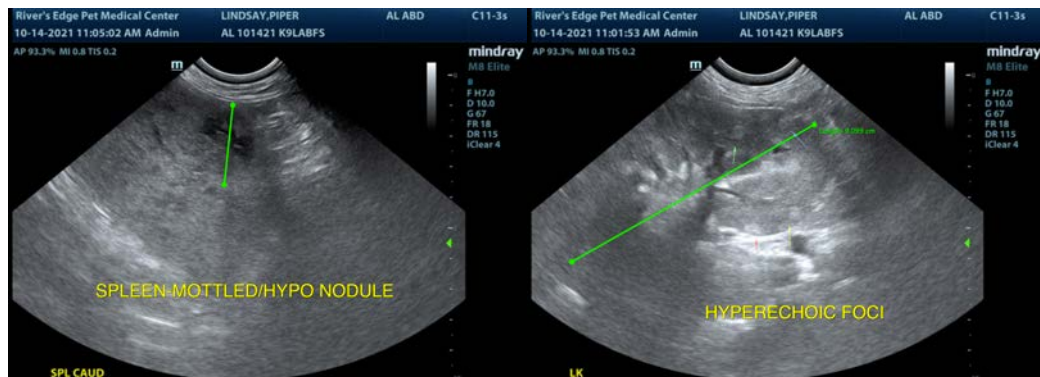
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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