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DATE PRESENTING CLINICAL SIGNS

10/26/22 Polyuria/polydipsia. Lesion on spleen, heterogenous liver with hypoechoic nodule, abnormally dilute urine.

PATIENT Current Medications: Tri-Heart Plus 1x/month.

Chelsey Soukup Lab Results: 9/29/22 UA: USG 1.015, pH >9.0, 3+ protein, quiet sediment. UP: Cre 2.1.

Date of Previous IntraPet Ultrasound: 1/12/22. See attached.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

SPECIES

Canine

BREED

Golden Retriever

SEX

Spayed Female

AGE

2/27/11

WEIGHT

79.2 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Taylorville Vet Clinic

REFERRING VET

Dr. Peterson

INVOICE

42352

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 (6.91 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 (6.8 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 large and irregular, measuring 0.62 cm at the cranial pole, 1.27 cm at the caudal pole, and 3.38 cm in length. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance in that the caudal pole has a hyperechoic nodule in it that measures 1.4 cm x 1.15 cm. There is no obvious evidence of vascular invasion visualized.

The right adrenal gland is normal in size measuring 0.82 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 and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. Rare discrete focal hyperechoic, perivascular parenchymal abnormalities are present. The appearance of these lesions is most consistent with benign splenic myelolipomas. The blood flow through the hilus and splenic parenchyma appears normal. The previous hyperechoic nodule visualized measured 0.71 cm x 0.84 cm. Today it measures 0.69 cm. This lesion appears static and is likely a mild lipoma.

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 is a hypoechoic nodule visualized on the left side measuring 4.27 cm x 2.82 cm. This appears slightly larger than the previous measurement of 3.76 cm x 1.66 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. 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. 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 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.

Other

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

ULTRASONOGRAPHIC FINDINGS

- Hyperechoic nodule in the caudal pole of the left adrenal gland – Left/right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Hyperechoic foci in the spleen – most consistent with benign myelolipomas.
- Heterogeneous liver with 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 nodule visualized is approximately 15-20% larger than the previous scan on 1/12/22.
- Moderate gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

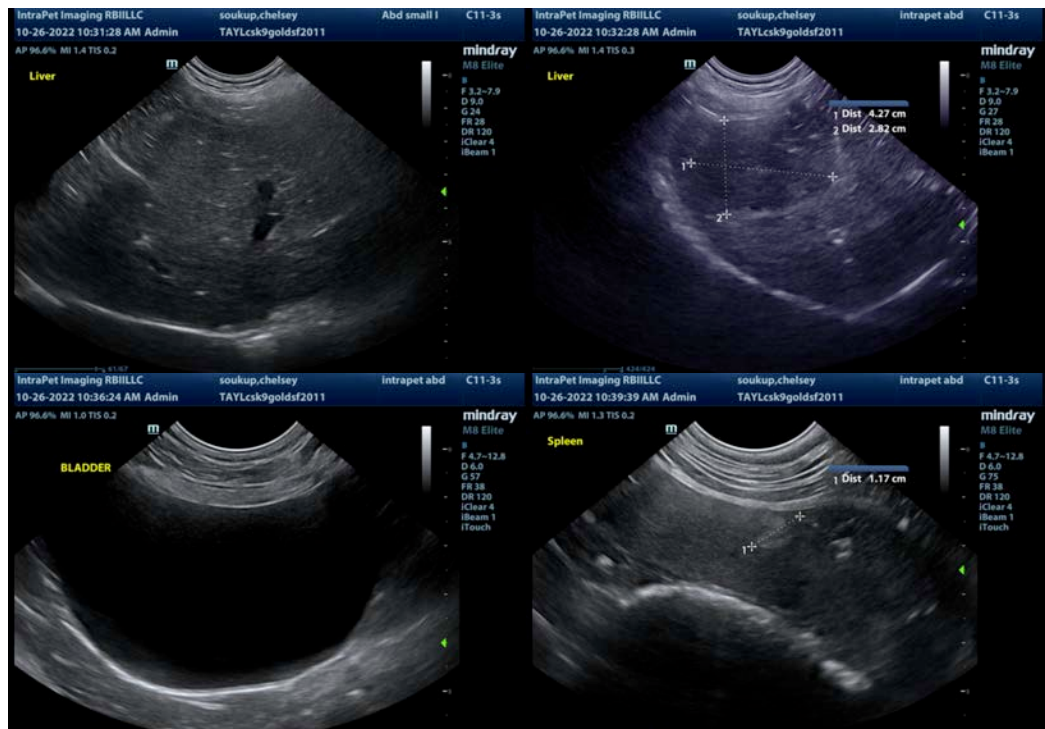
A hyperechoic nodule is visualized on the caudal pole of the left adrenal gland. This could represent a benign or neoplastic lesion and could be actively secreting hormone or be non-secretory. These are possible steps to take for further evaluation.

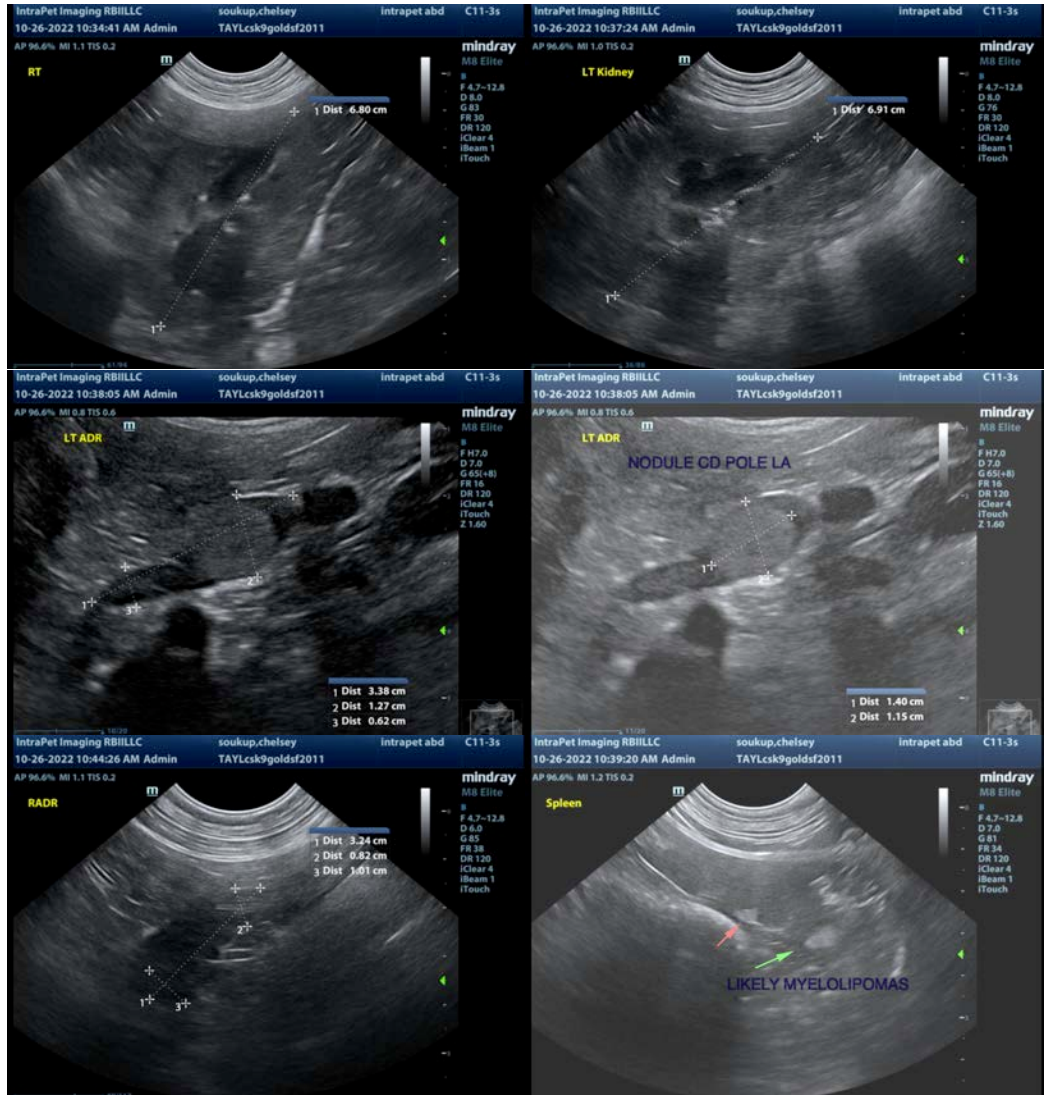
- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent cushings 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.

Although this lesion appears relatively circumscribed, I am concerned that it has risen over the last 9 months, and therefore could change rapidly. If surgical intervention is considered, I would consider doing so now rather than waiting for an evaluation in several months.

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

The hypoechoic nodule in the liver appears slightly larger than on the previous scan. This is an irregular lesion, so measurements are an approximation. If a contrast CT is considered for the left adrenal gland, you could also include the liver and further evaluate this lesion. If an adequate window can be obtained, a fine needle aspirate could be considered.





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.

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