



PATIENT PRESENTING CLINICAL SIGNS

Maya Quinn Enlarge liver/spleen anorexia murmur 3/6 holosystolic PMI L base

SPECIES Abnormal PE/Chem/CBC/UA Results: **ABNORMAL** Labwork Values BUN 11.94 Creatinine 133
Canine Total Protein 50 Glucose 2 ALP 1798

BREED ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Beagle **Urinary System**

SEX 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.

Spayed Female

AGE The left kidney has a normal shape and size (5.06 cm) with pyelectasia at 0.56 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

15 Years

WEIGHT The right kidney has a normal shape and size (6.01 cm) with mild pyelectasia at 0.35 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

14.7 kg

INTERPRETED BY

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

Adrenal Glands

The left adrenal gland is large and irregular, measuring 0.75 cm at the cranial pole, 1.43 cm at the caudal pole, and 2.65 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 is hypoechoic and large, creating the effect of an adrenal nodule. There is no evidence of vascular invasion visualized.

IMAGING PERFORMED BY

Kelly Reschny

The right adrenal gland is normal in size measuring 1.65 cm at the cranial pole, 0.57 cm at the caudal pole, and 2.53 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 normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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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 is a discrete hypoechoic nodule visualized measuring 0.81 cm in diameter.

REFERRING VET

Dr. Kohlmaier

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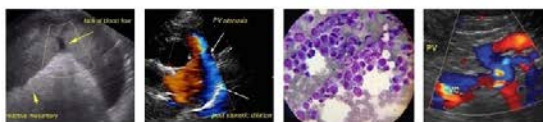
Liver

The liver is large and irregular. The parenchyma is severely heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. The liver is diffusely nodular with distinct hypoechoic nodules and some hyperechoic nodules. Some target lesions are visualized as well. These nodules deform the splenic margins, appear expansile, and range in size from 0.50-3.9 cm.

DATE

1/12/23

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation.



PATIENT

Gastrointestinal

Maya Quinn

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.

SPECIES

Canine

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.)

BREED

Beagle

Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

SEX

Spayed Female

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.

AGE

15 Years

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.

WEIGHT

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Free Abdomen

There is a moderate amount of free abdominal fluid. No lymphadenopathy. The omentum is generally of normal echogenicity.

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Medicine)

ULTRASONOGRAPHIC FINDINGS

IMAGING PERFORMED BY

Kelly Reschny

- Hypoechoic nodule in the caudal pole of the left adrenal – Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Decreased corticomedullary distinction in both kidneys with bilateral pyelectasia – The bilateral renal findings are consistent with age-related change. Pyelectasia of the kidney(s) could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Hypoechoic nodule in the spleen – There is a non-cavitated, hypoechoic splenic nodule visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Large, heterogeneous liver with diffuse hypoechoic expansile nodules, some of which are hypoechoic and hyperechoic, and some appear target-like – 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 appearance of these nodules is concerning for an underlying neoplastic process, but benign lesions are possible.
- Large amount of debris visualized within the gallbladder lumen – A large amount of debris is evident in the gall bladder with no evidence of a mucocele or associated inflammation at this time. This could represent an early mucocele or cholestasis, with minimal evidence of associated inflammation at this time. Continued monitoring of lab work and ultrasound are warranted for progression of this lesion. Ursodiol therapy could be considered.

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- Moderate amount of free abdominal fluid – I suspect this is secondary to the significant liver pathology present.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a nodule visualized on the caudal pole of the left adrenal gland. This could be benign or malignant and secreting hormones or be non-active. The appearance of this lesion is somewhat uniform, most consistent with an adenoma. These are my recommendations for further evaluation of an adrenal nodule:

- 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.

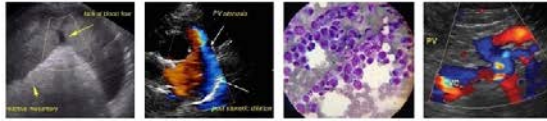
The liver is severely nodular with nodules that are expansile, deforming the hepatic margins. Some have a target-like appearance. These are concerning for more aggressive nodules. A fine needle aspirate should be considered.

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

There is a small hypochoic nodule in the spleen. This could represent a metastatic lesion, a primary splenic neoplasia, or a benign lesion. Consider a fine needle aspirate.

There is a moderate to large amount of debris visualized in the gallbladder, but the gallbladder wall is not thickened, and there is no associated inflammation. Consider chronic Ursodiol therapy and continued monitoring of the gallbladder and liver enzymes.





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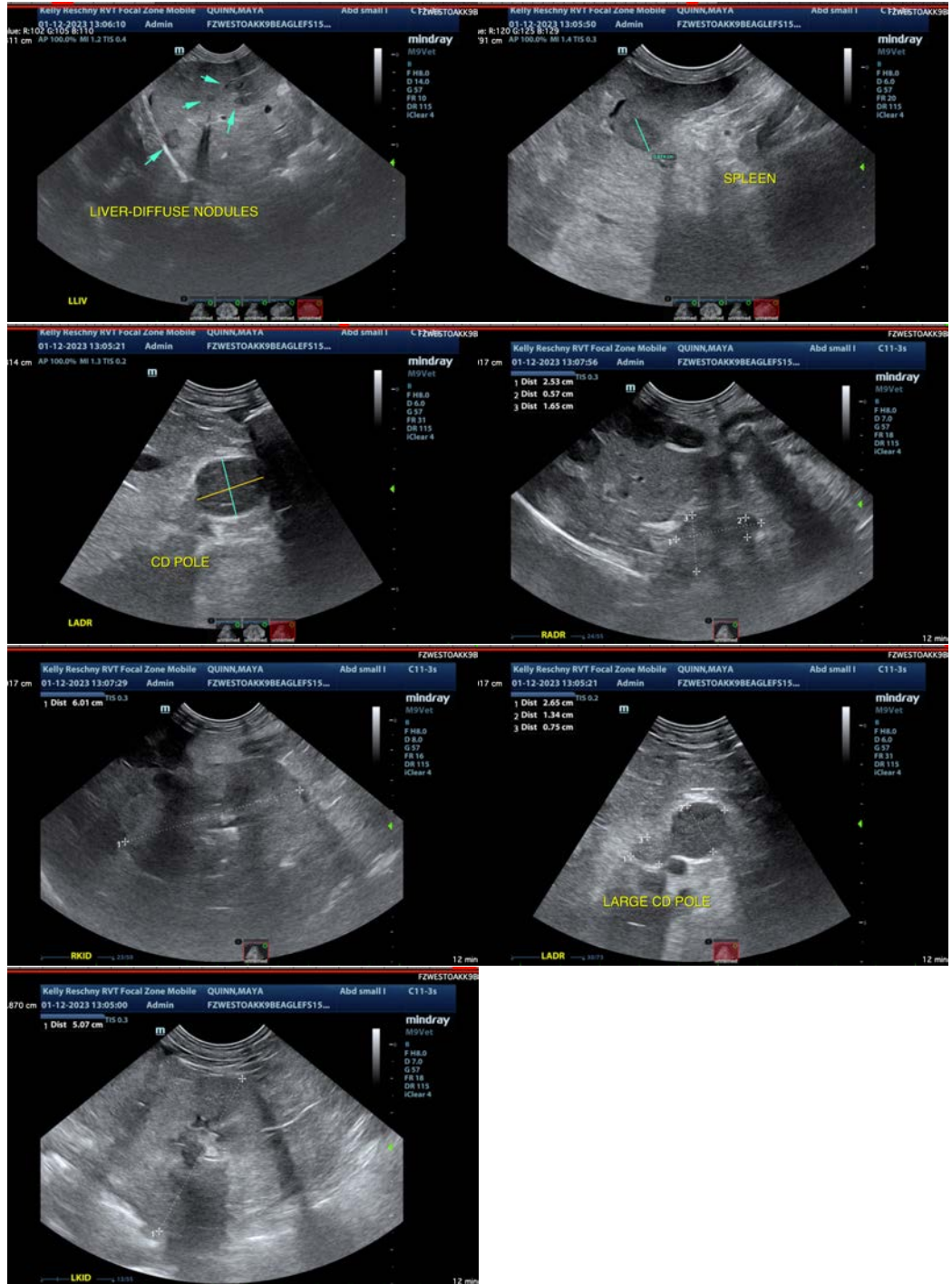
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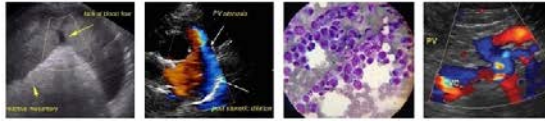
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

SPECIES

Canine

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)

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