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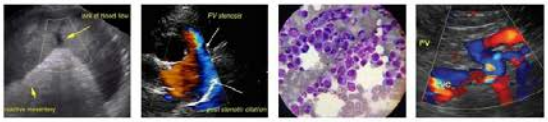

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Sage Myers

SPECIES

Canine

BREED

Staffordshire Bull Terrier

SEX

Neutered Male

AGE

13 Years

WEIGHT

87 Pounds

INTERPRETED BY

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

IMAGING BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Advanced PetCare of Nevada

REFERRING VET

Dr. Sarah Behrens

INVOICE

40934

DATE

8/31/22

PRESENTING CLINICAL SIGNS

NO sedation needed- History: Excessive thirst, pendulous abdomen, pruritis- chronic apoquel use Physical Exam Findings/Reason for Ultrasound: Borderline elevated SDMA/BUN, isothenuria, persistent elevations of ALT/ALP, critically high cPL, lipase Lab Work Attached for Review? Yes

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 (1.2 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 (8.0 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (8.54 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large measuring 2.7 cm at the cranial pole, 2.54 cm at the caudal pole, and 5.29 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat abnormal in that it is diffusely enlarged and has a mottled/heterogeneous texture. No direct evidence of vascular invasion is visualized. This is most consistent with a left adrenal mass.

The right adrenal gland is normal/borderline large, measuring 1.36 cm at the cranial pole, 1.04 cm at the caudal pole, and 3.27 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.

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 an ill-defined hypoechoic lesion measuring >2.1 cm x 2.0 cm with a small hyperechoic lesion in the center. This lesion does not deform the splenic capsule.

Liver

The liver is large and irregular in shape. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous intraparenchymal ill-defined hypoechoic nodules visualized. Examples of these measure 1.8, 2.1, 1.18, and 1.2 cm in diameter. Additionally, there is a large,

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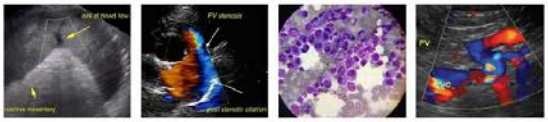

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irregular, mixed echogenic, hyperechoic, solid mass effect involving the caudate lobe of the liver, measuring approximately 6.75 cm x 9.79 cm.

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris and some areas have early mucosal stranding and organization of the debris into an early mucocele. There is a large amount of primarily non-organized echogenic debris present as well. There is no evidence of bile duct dilation.

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. Jejunum wall measures 0.45 cm. Duodenum wall measures 0.52 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

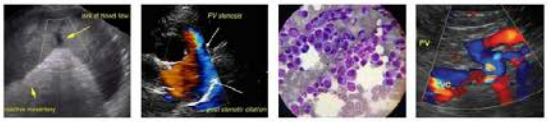
Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Left-sided adrenal mass – Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.

- Ill-defined hypoechoic lesion 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.

- Heterogeneous liver with ill-defined hypoechoic nodules and a large, irregular, solid mass effect in the caudate lobe – 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 nodules observed trend toward a more benign process but underlying neoplasia cannot be ruled out. The mass



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lesion in the caudate lobe is suspicious for a primary hepatic mass, but given the other lesions in the abdomen, a fine needle aspirate is recommended before considering surgical removal.

- Early gallbladder mucocele – The gall bladder changes are most consistent with a developing mucocele. Consider medical management and close monitoring for progression of this lesion.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are numerous lesions visualized on today's exam. There is a large left-sided adrenal mass visualized. This mass is relatively large. I do not see evidence of clear vascular invasion, but this is still possible. These masses can be benign or malignant and can secrete hormones or be non-active. Options moving forward include:

- 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 and/or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)-This can be a challenging surgery with significant risk for complication
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- Due to the invasive nature of these masses a CT scan is recommended to evaluate for metastasis and vascular invasion.
- If no symptoms of cushings are present, consider either referral for surgery or if surgery is not an option consultation with a veterinary oncologist regarding chemotherapeutic options and continued monitoring with ultrasound (in 4-6 weeks) can be considered.
- Some aggressive adrenal tumors can grow quickly and there is risk for acute hemorrhage from vascular invasion.

Additionally, there is a large mass effect in the caudate lobe of the liver. This could represent a benign or neoplastic lesion, and it could be unrelated to the adrenal or the other hepatic nodules. Consider a fine needle aspirate of the liver mass and consider evaluation of this mass at the same time as you CT the adrenal mass to evaluate it for possible removal provided this does not appear to be a metastatic lesion (seems unlikely).

There is an ill-defined hypoechoic nodule in the spleen. Options moving forward include continued monitoring or fine needle aspirate.

An early gallbladder mucocele is present. There is no surrounding inflammation or fluid at this time, but close monitoring is warranted to ensure that a surgical lesion does not develop.

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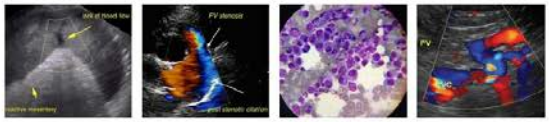

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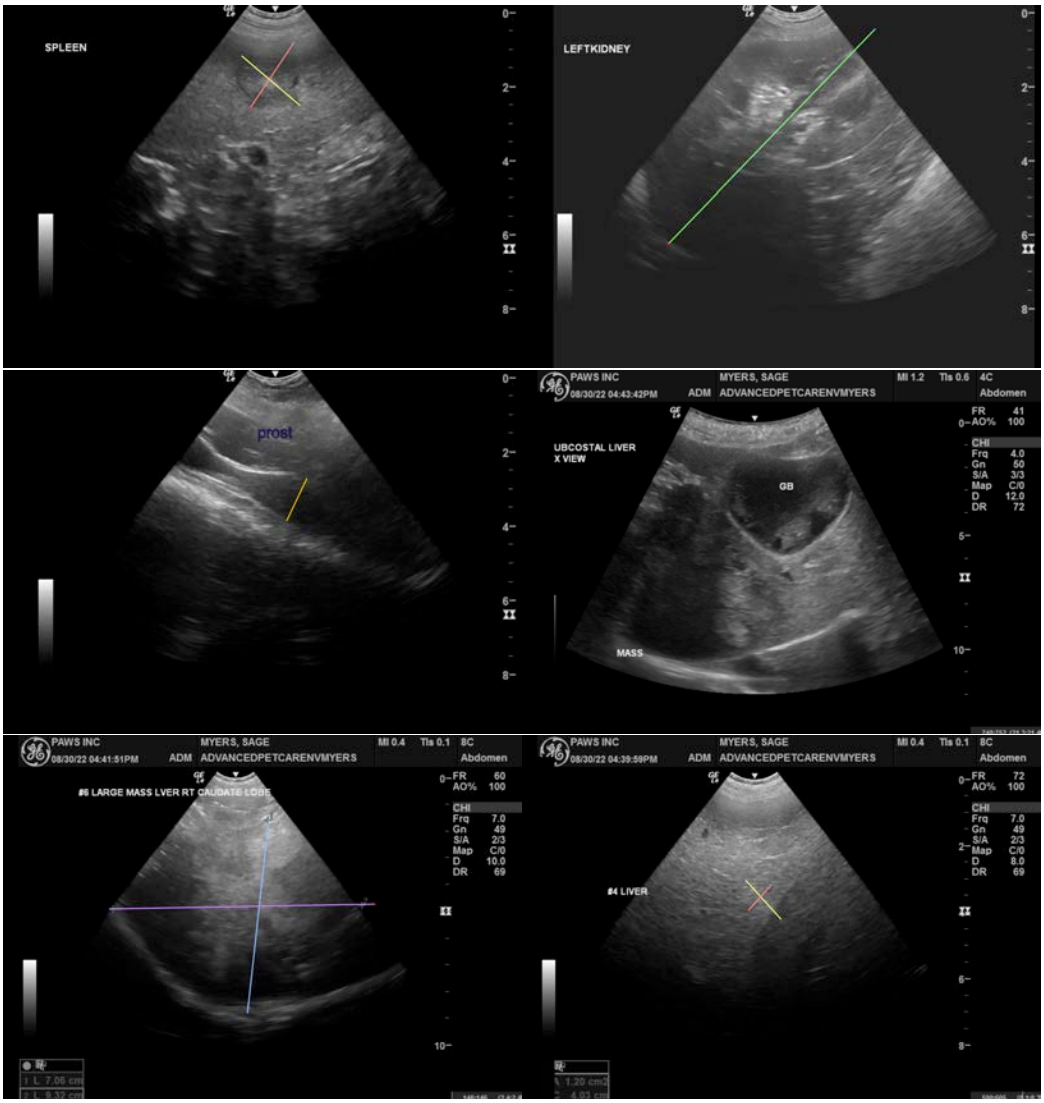
Recommend chronic, likely lifelong Ursodiol therapy and close monitoring.

The right adrenal gland is somewhat enlarged but appears similar to a normal hypertrophied gland. This could indicate the possibility of concurrent pituitary dependent hyperadrenocorticism as well as an adrenal mass.

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



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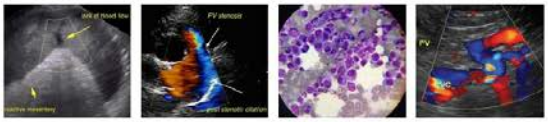

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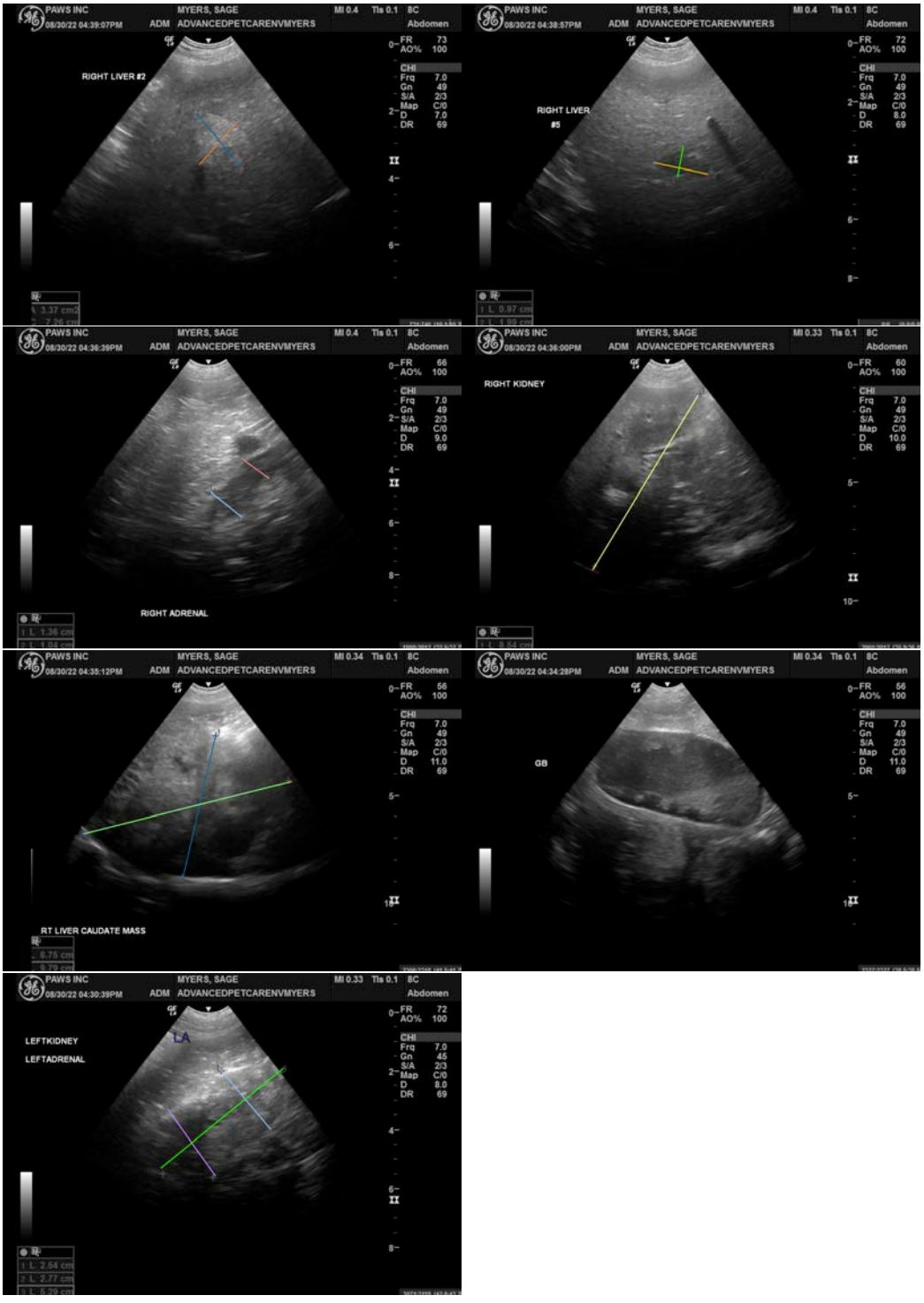

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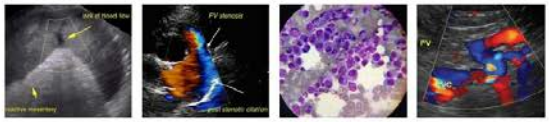

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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