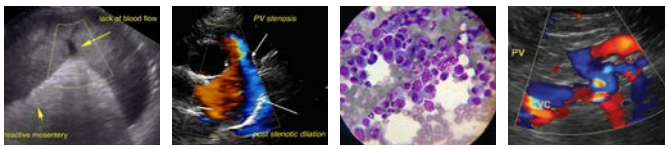


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Denver Allen

SPECIES

Canine

BREED

Shih Tzu X

SEX

Neutered Male

AGE

12 Years

WEIGHT

20.8 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Sheldon

HOSPITAL NAME

Advanced PetCare of Oakland

REFERRING VET

Dr. Sheldon

INVOICE

42428

DATE

11/1/22

PRESENTING CLINICAL SIGNS

Pre-anesthetic blood work for a dental has a high HI alt 90(prev 130 and 173) , HI alp 514(prev 248, 329). Pet is PU/PD. Pet had splenic mantle cell lymphoma, spleen removed in 2019-pet has been in complete remission.

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 (0.75 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 (4.27 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 (4.89 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 in shape. The cranial pole measures 0.57 cm. The caudal pole measures 1.13 cm. Length measures 2.56 cm. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance in that the caudal pole is enlarged and irregular in shape, which is concerning for a mass on the caudal pole. The caudal pole measures 1.13 cm x 1.22 cm. There is no obvious evidence of vascular invasion, but there is some impingement on the renal artery.

The right adrenal gland is borderline large measuring 0.89 cm at the cranial pole, 0.75 cm at the caudal pole, and 2.47 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.

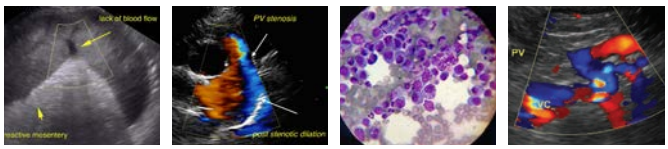
Spleen

No spleen. Previous splenectomy 2019.

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. No focal nodules or cystic lesions are observed.

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.



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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 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.

PRIMARY FINDINGS

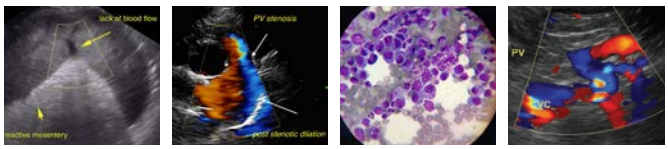
- Irregular/large caudal pole of the left adrenal gland – This could represent an anatomic irregularity, a benign lesion (hyperplasia, adenoma, etc.), or could represent neoplasia such as carcinoma, pheochromocytoma, other.
- Large, heterogeneous liver – The diffuse hepatic changes are non-specific and 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.

SECONDARY FINDINGS

- 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.
- No spleen – Previous surgery performed in 2019.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The caudal pole of the left adrenal gland appears irregular in shape and is significantly larger than the cranial pole. This is concerning for the possibility of a mass effect, although a normal anatomic irregularity or hyperplasia are possible. This lesion could represent a benign lesion, a neoplastic lesion, and could be secreting hormone or be non-secretory. Additionally, the right adrenal gland appears somewhat “plump”, so concurrent PDH cannot be ruled out. Recommendations for further evaluation of the left adrenal gland include:



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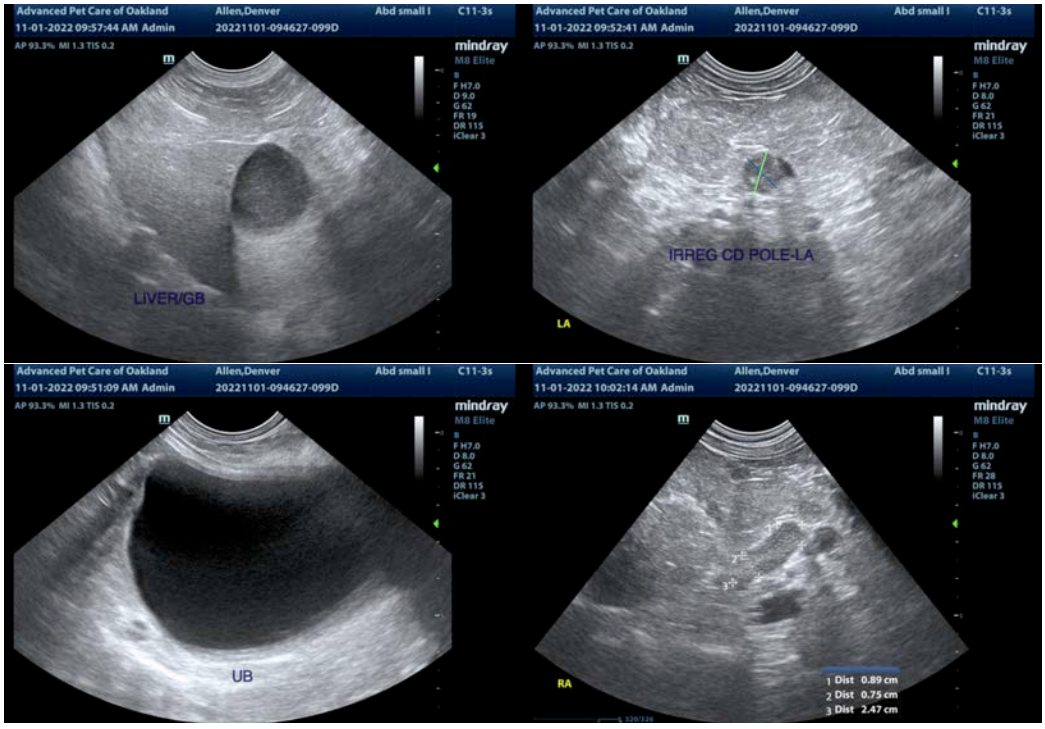
- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent cushings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

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

The liver is somewhat large and mildly heterogeneous. This could be consistent with a vacuolar hepatopathy, etc. Given the history of lymphoma, I would consider a baseline liver function test and a fine needle aspirate of the liver.

If evaluation of the left adrenal gland supports a benign process, you could consider medical treatment for Cushing's if adrenal function testing supports this diagnosis.

Additionally, consider urinalysis and culture to rule out a urinary tract infection.



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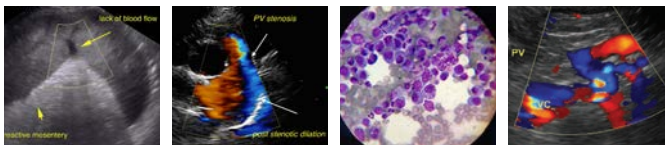

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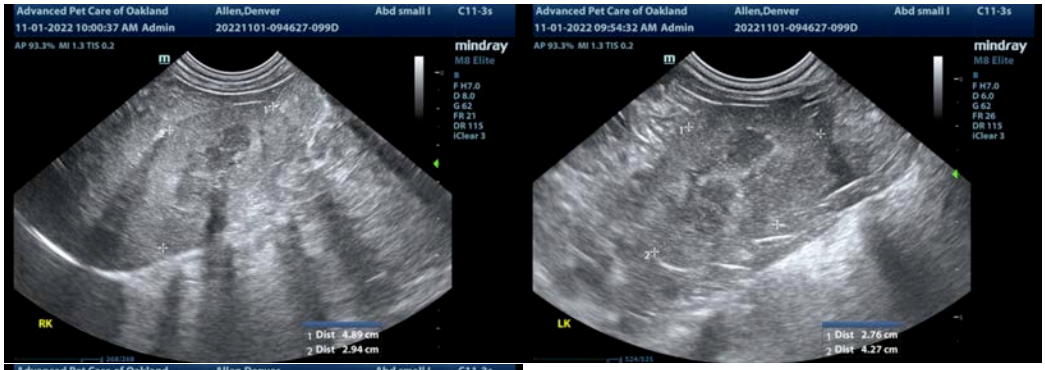

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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