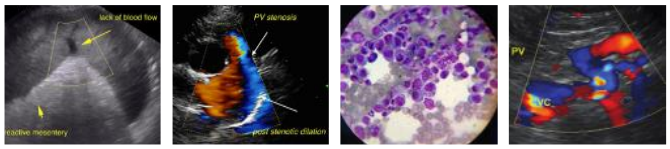
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Bella Lu

SPECIES
Canine

BREED
Shih Tzu Mix

SEX
Spayed Female

AGE
9 Years 10 Months

WEIGHT
26.3 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Sorbo

HOSPITAL NAME
Mill Brook AC

REFERRING VET
Jeffers

INVOICE
17478

DATE
9/27/22

PRESENTING CLINICAL SIGNS

History: Cushings diagnosed 7/28/21. On vetoryl 20mg SID. ACTH stim 9/15/22 was good, but ALK phos now 6488; up from 1509 (6/22/21). Episode of pancreatitis in April 2022. Dental disease; overweight; sebaceous adenomas.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Left kidney is normal is size (4.7 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Right kidney is normal is size (5.6 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The left adrenal gland is enlarged (3.1 cm long x 1.7 cm at the cranial pole and 1.0 cm at the caudal pole) with mild heterogenous parenchymal changes and mineralization noted. Swollen capsular expansion is noted without evident capsular escape or vascular invasion.

Right adrenal gland is normal in size (0.52 cm at cranial pole and 0.82 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

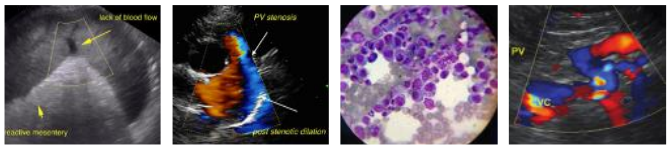
Liver

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta.



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There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- A left adrenal mass, especially given the mineralization, is most consistent with a benign adrenal cortical tumor, such as an adrenal adenoma. A malignant adenocarcinoma cannot be definitively ruled out but is considered less likely. Similarly, adrenal hyperplasia, secondary to pituitary dependent hyperadrenocorticism or concurrent pituitary dependent and adrenal dependent disease at the same time is also possible given the lack of a small flat right adrenal gland, which is what would be expected with adrenal dependent disease alone.

- Hyperechoic hepatomegaly – This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.

- Gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

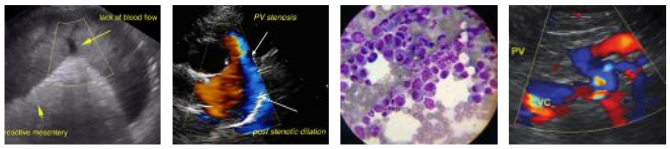
Secondary Findings

- Urinary bladder debris

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patients known hyperadrenocorticism:

Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.



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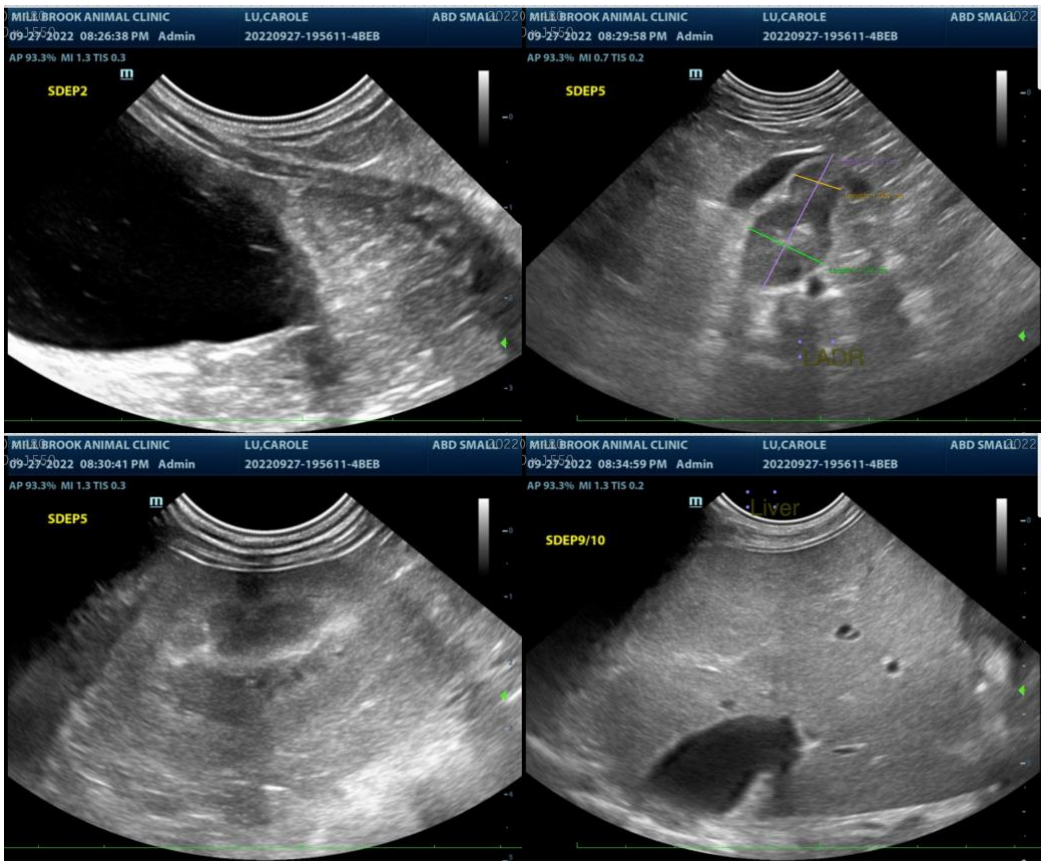
A blood pressure is recommended, if not recently evaluated.

The lack of full response to Vetoryl could be due to once daily dosing, as many dogs require the same daily mg but divided into twice per day dosing for maximum clinical control. Therefore, instead of 20 mg once per day, 10 mg twice per day could be considered in this patient, or given the suspicion for a left adrenal tumor, precursor hormones versus cortisol may be contributing to poor control and a switch from Vetoryl to Mitotane/Lysodrine could be considered.

Alternatively, especially if hormone testing is consistent with adrenal dependent disease, a left adrenalectomy could be considered versus medical management. Again, it is possible to have both adrenal dependent and pituitary dependent disease at the same, so if surgery is pursued for a left adrenalectomy, a conversation about the possibility for having to maintain some medical management for the right adrenal gland even after surgery is recommended.



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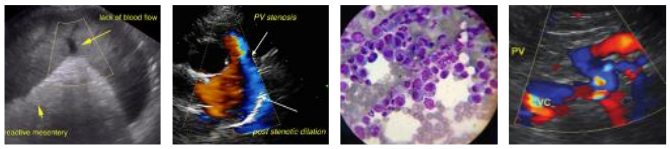

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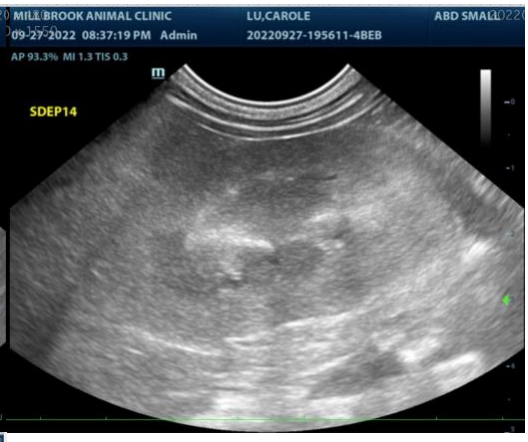

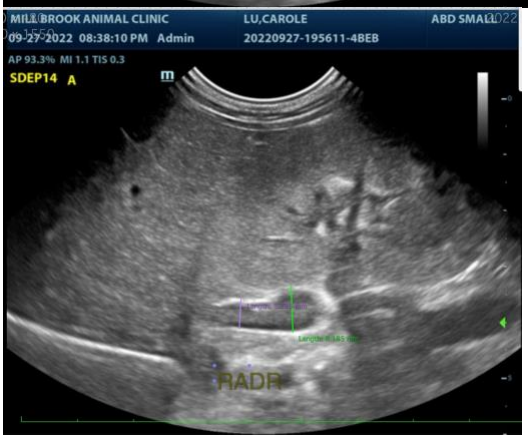

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM DACVIM

Beth.Johnson@SonoPath.com