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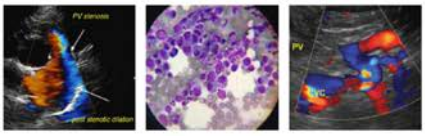

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PATIENT
Skippy Ahrens

SPECIES
Canine

BREED
Chihuahua

SEX
Neutered Male

AGE
11 Years

WEIGHT
8 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Amy Mayhew, LVT

HOSPITAL NAME
SVS Imaging MI

REFERRING VET
Dr. Ahrens

INVOICE
44828

DATE
2/7/23

PRESENTING CLINICAL SIGNS

PU/PD.
Abnormal PE/Chem/CBC/UA Results: Elevated LES.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

The right kidney is normal in size (3.9 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.

The left kidney is normal in size (3.94 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. A cortical cyst is noted in the caudal pole. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The right adrenal gland measures 0.80 cm at the caudal pole and 0.84 cm at the cranial pole. The left adrenal gland measures 0.60 cm at the cranial pole and 0.73 cm at the caudal pole.

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. Multifocal mineral foci are noted. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. In the superficial right liver, there is a slightly more heterogeneous nodule that measures 0.90 cm x 1.4 cm in size, contains a hyperechoic center with a hypoechoic rim, concerning for a “target lesion”. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with 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 (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions

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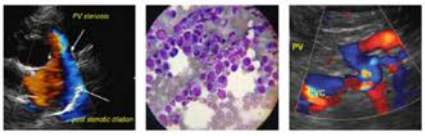

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per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **Bilateral adrenomegaly –** consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- **Spleen mineralization –** This is a benign change but can be associated with endocrinopathies, especially hyperadrenocorticism.
- **Emerging mucocele –** 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. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.
- **Heterogenous Liver with a more discrete "target lesion" nodule –** These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia. The more discrete "target lesion" could still be a similar benign process but is slightly more concerning for infiltrative neoplasia, given the target appearance.

SECONDARY FINDINGS

- Incidental cortical cyst in the left kidney

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The adrenal gland, liver, gallbladder, as well as the splenic changes are all relatively consistent with hyperadrenocorticism. Therefore, given this patient's reported PU/PD, etc., hyperadrenocorticism is a differential. Recommendations include a low-dose Dexamethasone suppression test, as well as, if not recently evaluated, a 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. A blood pressure is also recommended.

The discrete liver nodule should be evaluated either by a fine needle aspirate (if patient's coagulation status is appropriate) or close monitoring, beginning with a recheck ultrasound in 4-6 weeks.

In the meantime, medical management of the emerging gallbladder mucocele is also recommended with Ursodiol +/- broad-spectrum antibiotic with monitoring of liver enzymes for improvement. If they

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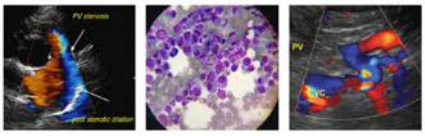

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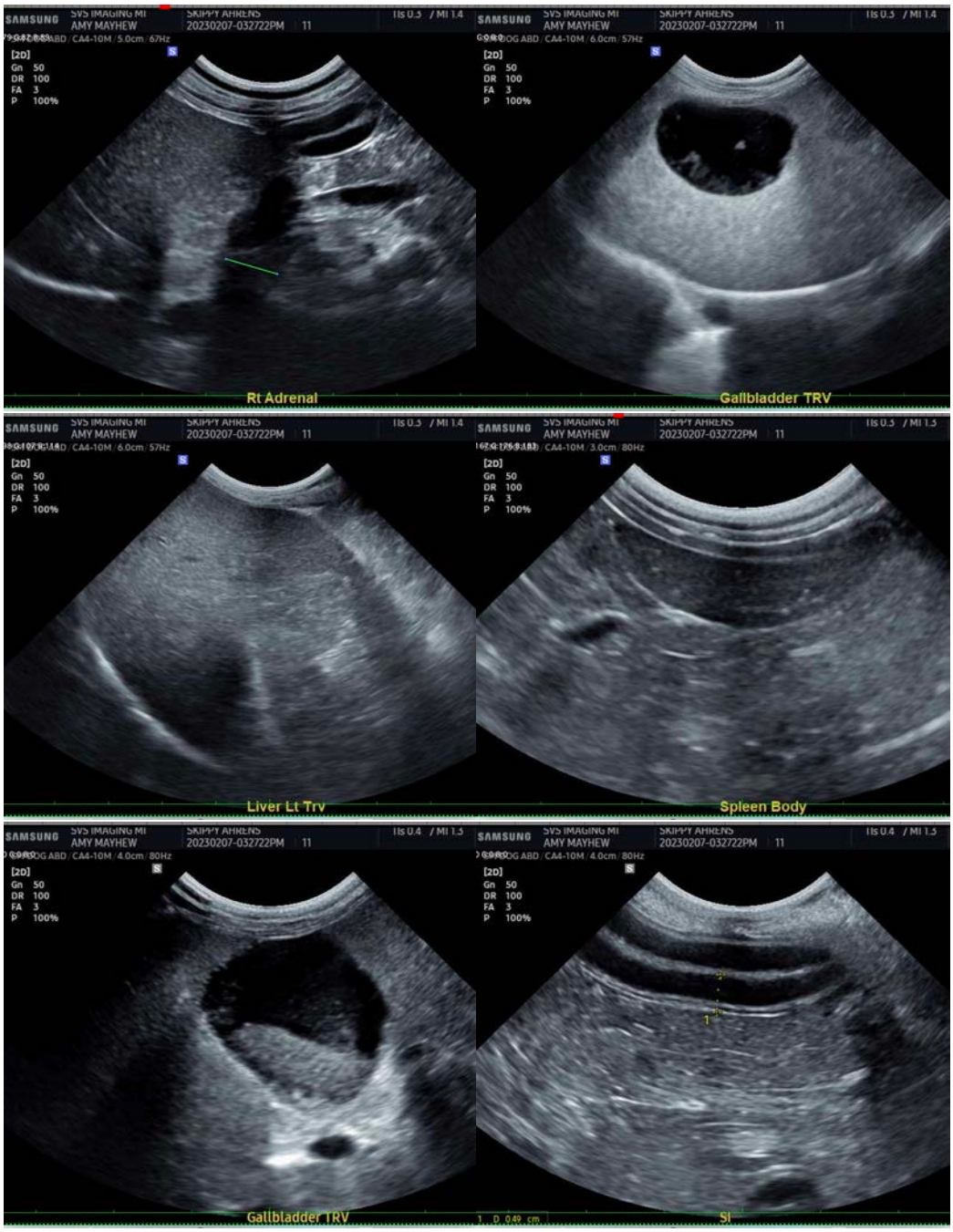
improve, the antibiotics should be continued until they either normalize or plateau. If improvement is noted, the antibiotic does not need to be continued long-term. If at anytime liver enzymes progress and/or patient clinical signs are consistent with a mucocele, including cranial abdominal pain, nausea, inappetence, etc., a more aggressive approach up to an including cholecystectomy may be necessary.



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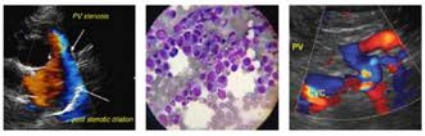

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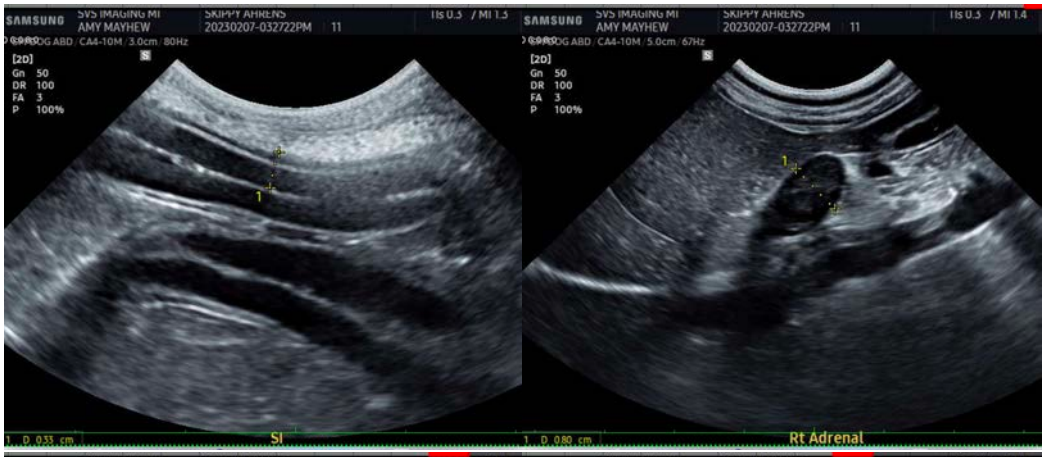

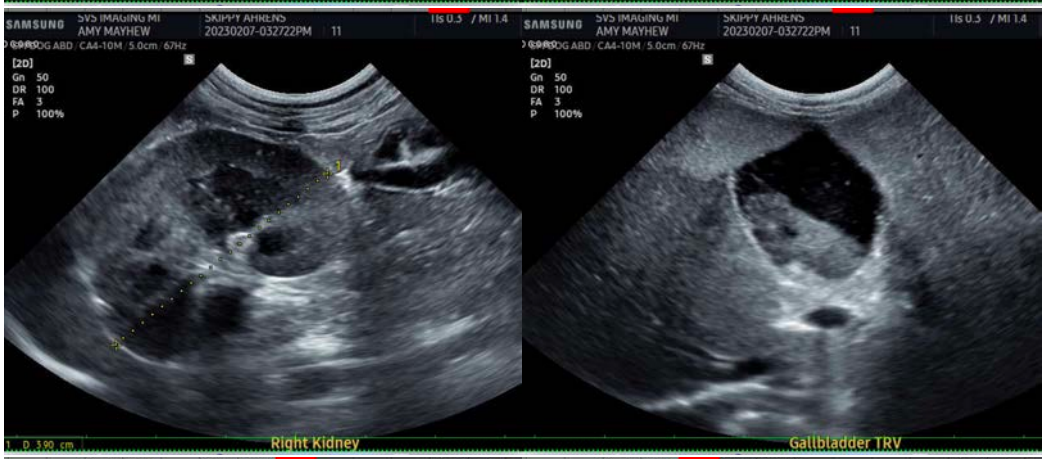

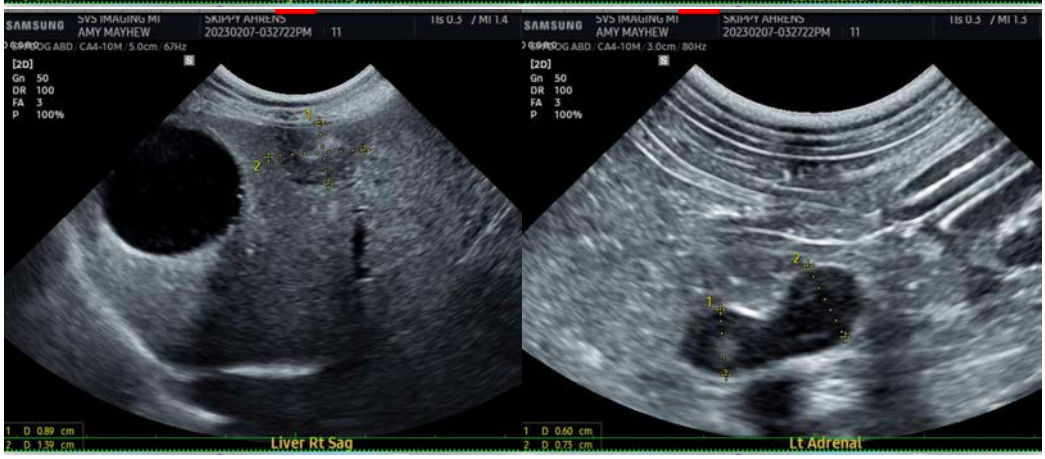

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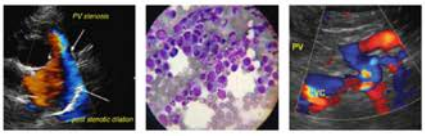

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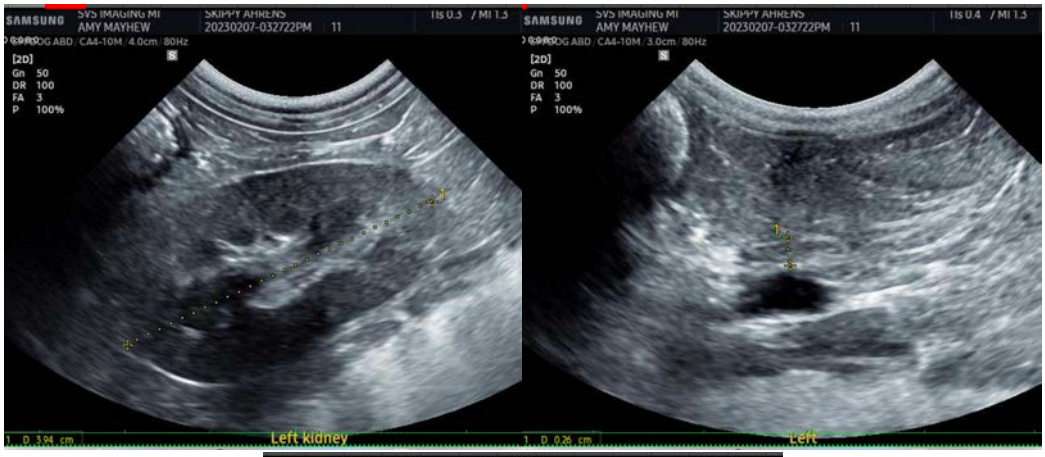

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com