IMAGING PERFORMED BY

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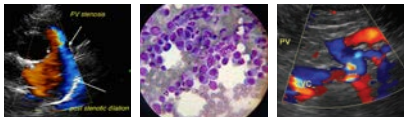


SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE

8/1/23

PATIENT

Ruger Lewis

SPECIES

Canine

BREED

Shih Tzu

SEX

Neutered Male

AGE

12/14/12

WEIGHT

12.6 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Bel Air Vet Hospital

REFERRING VET

Dr. Stevenson

INVOICE

44546

PRESENTING CLINICAL SIGNS

Acts like refluxing (burp?)- episodes of swallowing attempts when on sofa. Will cough and sneeze, brought up small amount of liquid w/ canned food. Has had loose BM/diarrhea since storm off/on early Fri AM. Exploratory sx 12/11/20- stomach huge, flaccid, decreased motility (none?).

Current Medications: Thyro-tabs 0.1mg SID, occasional Composure Pro, Occasional Hydrocodone 5mg/Homatropine 1.5mg (trachea issues), Simethicone 40mg 3x/day.
Lab Results: See attached.
Radiographs: 7/24/23 + 7/25/23- elevation of thoracic trachea, gas in stomach, multiple prominent SI walls/possible enteritis pattern, increased ST density greater curvature of stomach –(fundus body)- possible mass. Right cranial quadrant apparent gas in cecum + feces in colon.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

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.

The area of the prostate is examined without evident prostatic pathology.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of infarcts observed. Pyelectasia is noted in the right kidney measuring 0.42 cm in the sagittal view. The right kidney measures 3.63 cm. A small non-obstructive nephrolith is noted in the left kidney. The left kidney measures 4.0 cm.

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 left adrenal gland measured 0.59 cm at the cranial pole and 0.73 cm at the caudal pole. The right adrenal gland measured 0.93 cm at the cranial pole and 0.94 cm at the caudal pole.

Spleen

The 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 with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion. In the deep right liver, some of the hypoechoic nodules have a subtly hyperechoic center as can be seen with “target lesions”.

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

Fundic mucosal hypertrophy with hyperechoic mucosa and some mucosal remodeling is noted. There is no loss of mural detail. Layering is normal. There is mild luminal fluid accumulation. No evidence of masses/nodules or foreign material present.

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 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

- **Gastritis –** Consistent with irritation secondary to dietary indiscretion or intolerance, infection (bacterial, viral, other), parasitic or protozoal disease, toxin, other metabolic disease such as pancreatitis, other. Microulceration cannot be ruled out.

- **Heterogenous Liver –** These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease, and even infiltrative round cell or, given the subtle “target lesion” appearance of some of the nodules, metastatic neoplasia.

- **Bilateral adrenomegaly –** consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.

- **Mild 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

- Age related kidney changes with a non-obstructive nephrolith in the left and mild pyelectasia in the right.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's history and the appearance of the stomach, empirical medical management for gastritis is recommended in the form of antacid therapy, antiemetics, +/- an appetite stimulant if needed. Additionally, in this patient a promotility agent could be helpful. Additionally, empirical deworming with a 5-day course of Panacur is recommended, as is an empirical course of helicobacter therapy. Transition in diet based on trial-and-error response could also be considered, with some options including a bland easy to digest diet, hydrolyzed protein diet, other.

Ultimately, however, if clinical signs persist, upper GI esophagoscopy, gastroscopy, and endoscopy could be considered for further visual evaluation and biopsies of the stomach and proximal small bowel.

A fine needle aspirate of the liver nodules, ideally the deeper liver nodules that have more of a target lesion appearance is recommended if patient's coagulation status is appropriate.

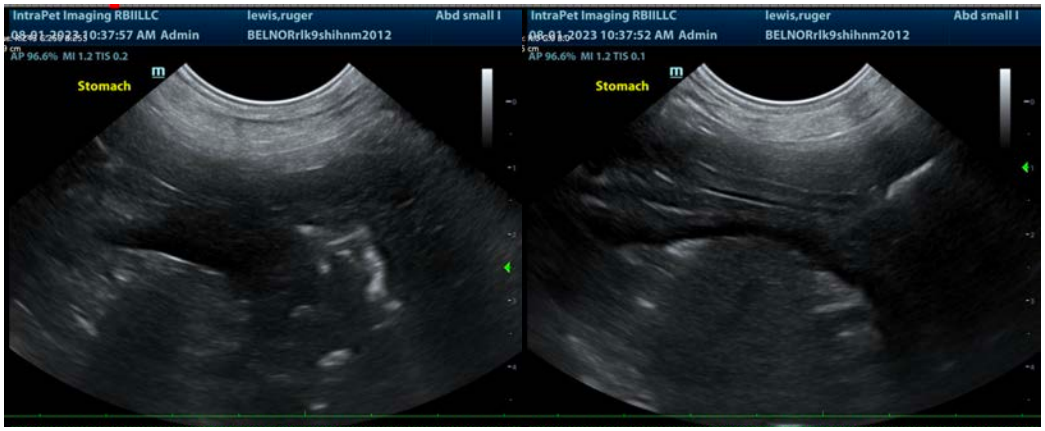
Having said that, the described adrenal gland, liver and gallbladder changes could all be consistent with hyperadrenocorticism. If clinical signs of hyperadrenocorticism, such as polyuria, polydipsia, polyphagia, panting, hair loss, hypertension, etc. are present, testing for hyperadrenocorticism with a LDDS test is warranted.

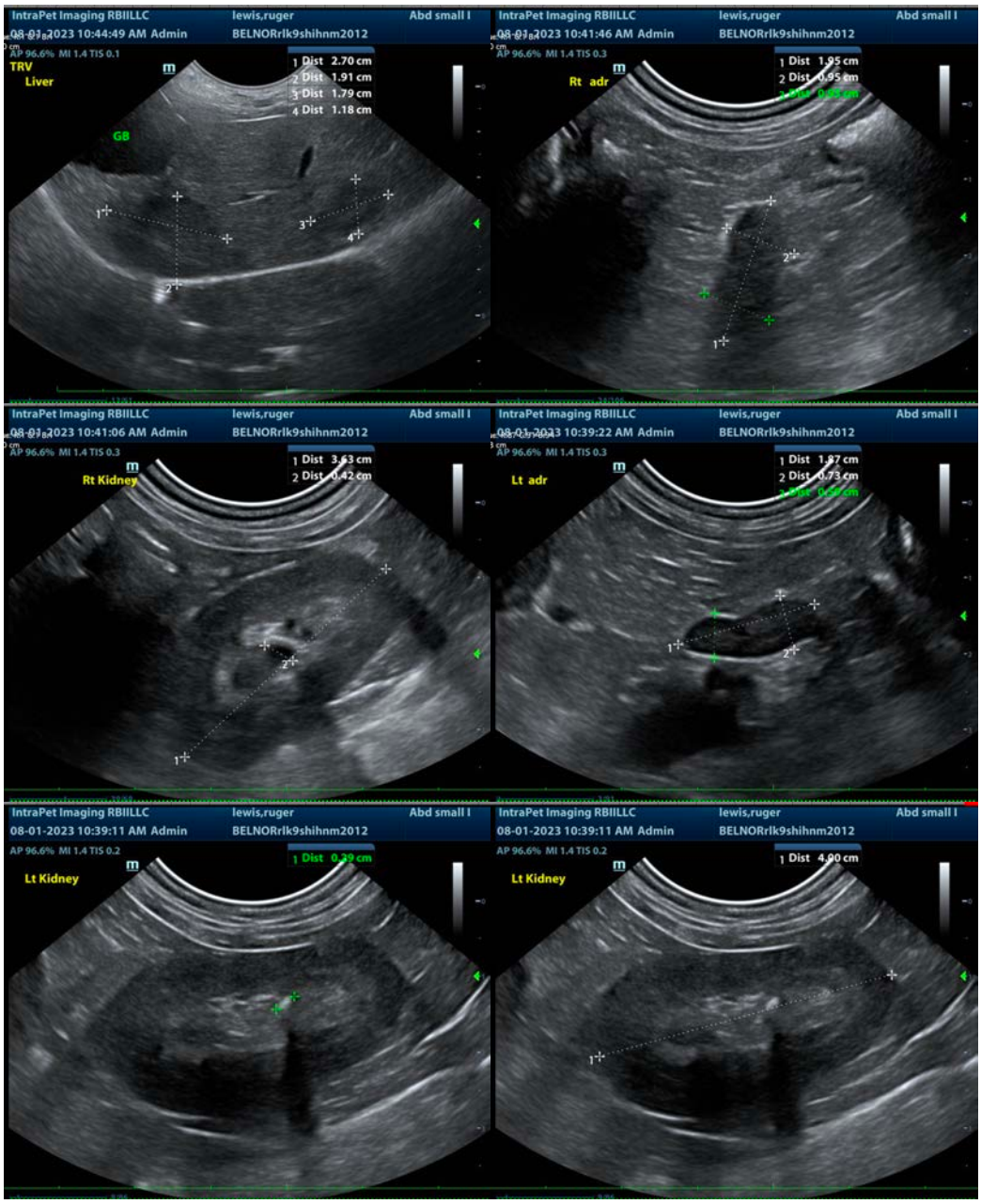
If, however, clinical signs are not present, testing for hyperadrenocorticism is not recommended until when/if clinical signs do develop.

Regardless of clinical signs, however, if not recently evaluated, blood pressure is recommended.

Additionally, if not recently evaluated, a urinalysis and, if indicated based on urinalysis results, urine culture is also recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.

If present, it is important to manage hypertension, proteinuria, UTIs, etc. directly, even if typical clinical signs do not warrant direct testing and treatment of HAC.

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Abd small l
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TRV
Liver
GB
1 Dist 2.70 cm
2 Dist 1.91 cm
3 Dist 1.79 cm
4 Dist 1.18 cm
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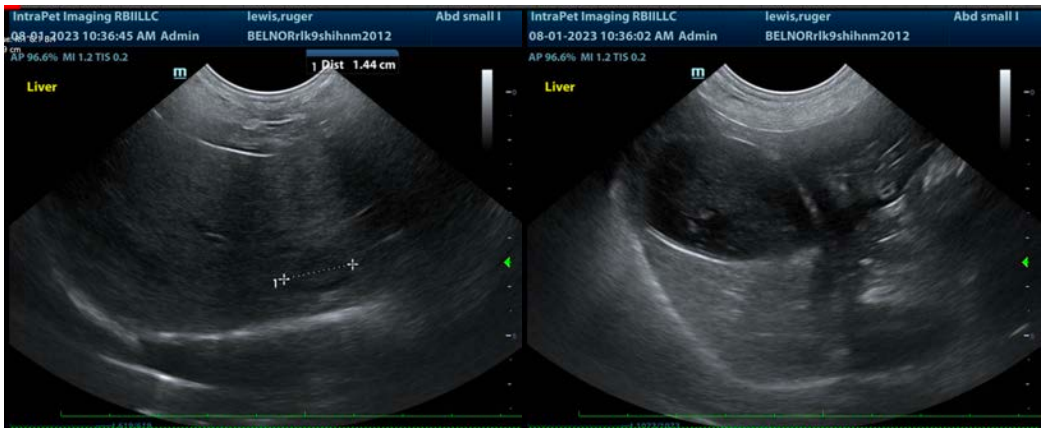

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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