

**DATE PRESENTING CLINICAL SIGNS**

9/21/21 Has been having urinary accidents in the house for the last month.
 Hydrolyzed protein royal Canin diet, canned food and dry food for treats.
PATIENT Behavior has become strange. Owner feels has lost muscle mass.

Lola Riley Current Medications: Prednisone 2.5mg SID, Ligaplex II daily, Welactin daily.

SPECIES Lab Results: Alt, Alkp and GGT were elevated on recent lab work. CBC is unremarkable except for thrombocytosis. ALP is 473, ALT is 138, GGT is 19. UPC is 1.3. Specific gravity is 1.033. Inactive urine sediment. T4 is normal.

Canine

BREED Date of Previous IntraPet Ultrasound: No previous

Yorkie Mix Sedation: Sedation not necessary.

SEX Stat Report: Not indicated.

Female Spayed

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

AGE The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth.
 2011 The bladder lumen is moderately distended with mostly anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

WEIGHT

7.1 lbs.

The left kidney is normal size (3.42 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. Several nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

INTERPRETED BY

Andrea Nicastro, DVM,
 Diplomate ACVIM
 (Small Animal Internal
 Medicine)

The right kidney is normal size (3.78 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydroureter.

HOSPITAL NAME

Animal Care Center

Adrenal Glands

The left adrenal gland is normal size (0.57 cm at cranial pole) (0.47 cm at caudal pole) (1.58 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

REFERRING VET

Dr. Beavers

The right adrenal gland is mildly enlarged (0.67 cm at cranial pole) (0.55 cm at caudal pole) (1.39 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

INVOICE

11870kk

Spleen

The spleen is subjectively prominent in size (1.34 cm in width at the level of the hilus) with slightly swollen peripheral contours. At the tip of the cranial pole, the peripheral margin is irregular, and the parenchyma is hypoechoic and relatively avascular. The mesentery effacing the serosal surface in this region is hyperechoic. The remaining parenchyma is homogeneous in appearance. Splenic vasculature at the hilus appears normal with no evidence of thrombosis.

Liver

The liver is subjectively enlarged with slightly swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of echogenic debris is observed within the lumen, some of which is gravity-dependent and most of which is suspended. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

Pancreas

The right limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

Free Abdomen

There is no evidence of free fluid. The abdominal lymph nodes are normal/not visible.

Other

A brief echocardiogram reveals no evidence of pericardial effusion.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, regenerative nodular hyperplasia, and/or age-related remodeling. Inflammatory and infiltrative disease are considered less likely.
- The gall bladder changes could be consistent with early mucocele formation, cholestasis or less likely, fasting.
- The splenic lesion could be consistent with an area of infarction, early neoplasia, or a focus of extramedullary hematopoiesis or lymphoid hyperplasia, or splenitis.

Secondary Findings:

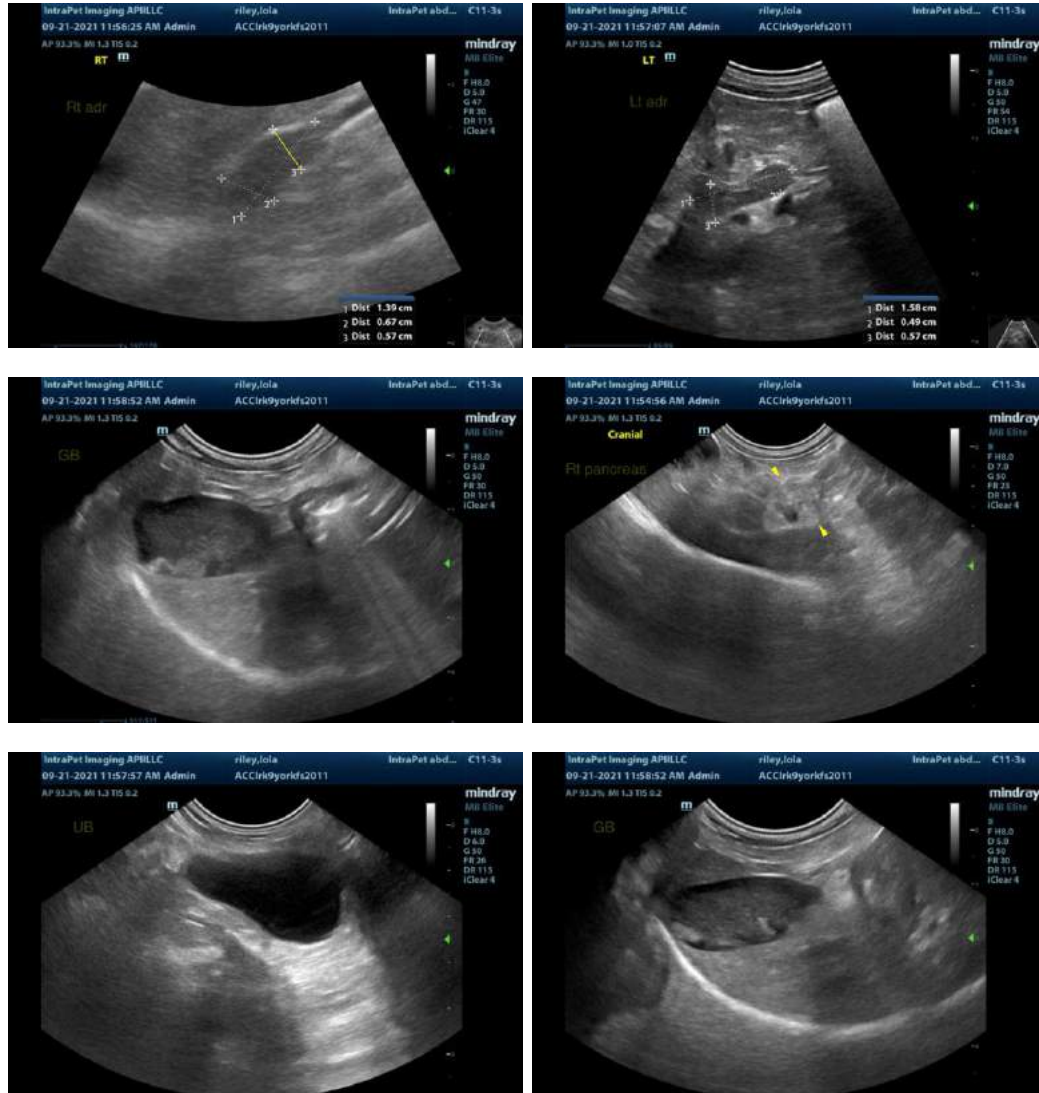
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Bilateral, age-related renal changes with dystrophic mineralization and left, non-obstructive nephroliths.

**An obvious cause for the patient's urinary accidents is not definitively identified in this study. Considerations include urinary tract infection, behavioral issue, underlying neurologic disease, and other.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

1. A thorough neurologic examination is recommended to assess for deficits that may be indicative of a brain tumor, which can cause behavioral changes and weight loss.
2. A urine culture and sensitivity is also recommended.
3. Three-view thoracic radiographs should be considered to assess cardiopulmonary status.
4. Regarding the splenic lesion, a fine needle aspirate can be considered (if clotting status is appropriate). A 25-gauge needle should be used. Alternatively, a repeat ultrasound in 2-3 weeks should be considered to assess for progression.
5. Given the elevated UPC, consider initiation of an ACE inhibitor or angiotensin receptor blocker +/- an anti-thrombotic agent (i.e., clopidogrel) and omega-3 fatty acids.
6. Given the gall bladder changes, ursodeoxycholic acid (Ursodiol) is recommended. Serial sonographic monitoring (e.g., every 6-8 weeks) of the gall bladder is recommended to assess for progression to a fully-formed mucocele.





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.

Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)
 Andrea.nicastro@sonopath.com