

**DATE PRESENTING CLINICAL SIGNS**

1/17/2022

History: Chief complaint was urinary incontinence. Elevated glucose and liver enzymes. LA enlargement. Urinary crystals. Evidence of a thickening of the bladder wall was noticed. A holosystolic 4/5 grade left sided heart murmur was auscultated, and with this concern I suggested in addition to lab work and radiographs an ECG was run for evaluation. On radiographs, evidence of gas and fecal impaction

PATIENT

Snowflake Vest

Current Medications: Lactulose 1/4 tsp Q 24 hrs.

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

SPECIES

Canine

BREED

Chihuahua

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with 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.

SEX

Female, spayed

AGE

4/1/2011

The left kidney is normal size (3.75 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction.

Trace pyelectasia is present. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

WEIGHT

11 lbs.

The right kidney is normal size (4.17 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction.

Trace pyelectasia is present (0.14 cm in the longitudinal plane). There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

INTERPRETED BY

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

Adrenal Glands

The left adrenal gland is enlarged (0.61 cm at cranial pole) (0.71 cm at caudal pole) (1.99 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.

HOSPITAL NAME

Essex Middle River VH

The right adrenal gland is normal size (0.51 cm at cranial pole) (0.46 cm at caudal pole) (2.07 cm in length) with a slightly irregular shape. 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. Slaughter

Spleen

The spleen is normal in size (0.77 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

INVOICE

12853

Liver

The liver is subjectively normal in size with normal curvilinear peripheral contours. The parenchyma is hypoechoic relative to the spleen and exhibits a finely heterogeneous pattern. 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 small amount of aggregated echogenic partially dependent debris/sludge is observed within the lumen. 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. A 0.91 x 0.30 cm sublumber lymph node is visualized.

Other

A visible/prominent uterine stump is visualized (0.57 cm in width). The lumen is not dilated. There is no obvious evidence of inflammation or other gross pathology.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- An obvious cause for the patient's urinary incontinence is not identified in this study. Considerations include urinary tract infection, renal disease, urethral sphincter mechanism incontinence, underlying neurologic disorder, liver disease (i.e., due to PU/PD), other.
- Non-specific diffuse hepatopathy. Differentials include benign age-related change (i.e., vacuolar hepatopathy, regenerative nodular hyperplasia, age-related remodeling). Alternatively, inflammatory disease, hepatotoxicosis or other hepatopathy may be present. Correlation with the patient's liver values is recommended.
- Mild gallbladder sludge, non-mucocele.

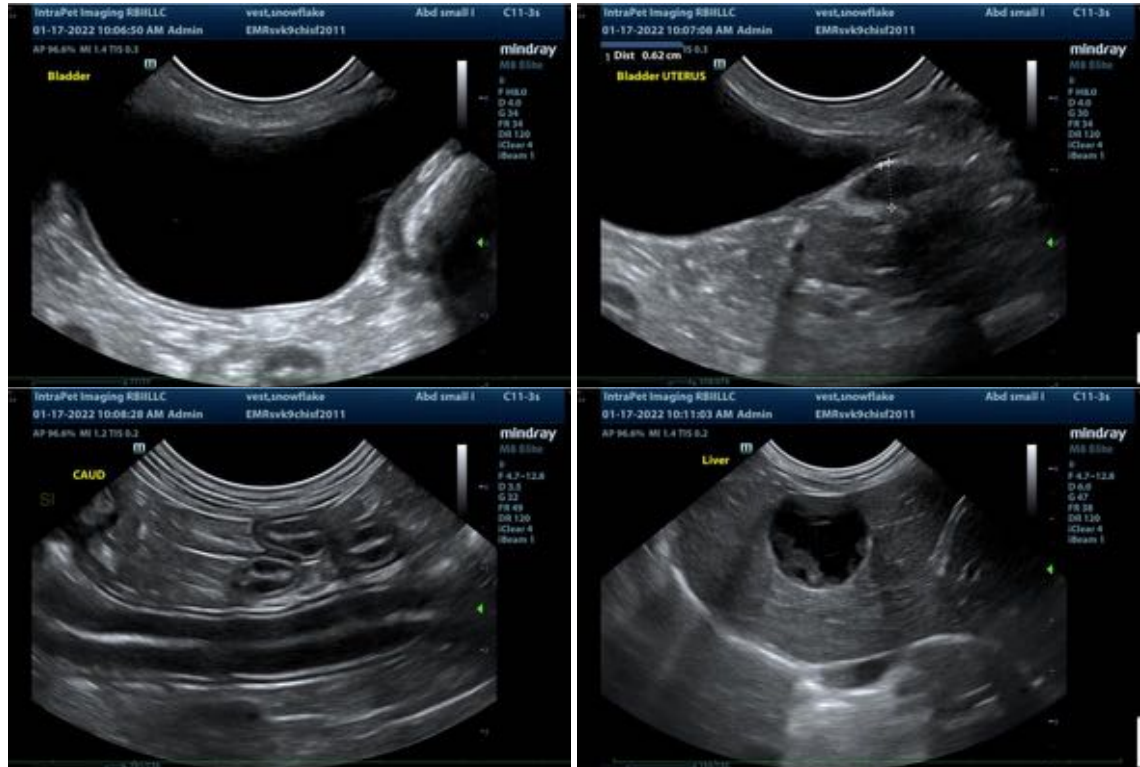
Secondary Findings:

- Mild left adrenomegaly.
- Bilateral, non-specific mild, age-related renal changes with trace pyelectasia.
- Age-related pancreatic remodeling +/- fibrosis.
- The prominent sublumber lymph node is likely reactive.

- Prominent uterine stump. If the patient is not exhibiting evidence of vaginal discharge or signs of heat, this is likely an incidental finding. Correlation with the patient's clinical signs is recommended.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the urinary incontinence, a urine culture and sensitivity is recommended to assess for occult pyelonephritis.
- Depending on the patient's liver values, further diagnostics can be considered, including the following:
 1. Pre- and post-prandial serum bile acids
 2. Hepatic tissue sampling (i.e., fine needle aspirate or surgical biopsy)
 3. Further testing for Cushing's disease (i.e., low-dose dexamethasone suppression test or ACTH stimulation test).
- If the patient's glucose is significantly elevated, assessment for glucosuria +/- a fructosamine level may be warranted to further evaluate for diabetes mellitus.







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