



**PATIENT PRESENTING CLINICAL SIGNS**

Lucy Grippi History: current tooth root abscess, hematuria, spay for pyometra 2 mo ago  
Abnormal PE/Chem/CBC/UA Results: WBC 42.2, Neu 39, Lym 2.4, Plt 995, BUN 48.7

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Canine

**Urinary System**

The urinary bladder is mildly distended. A mass effect is seen in the region of the dorsal wall, cystourethral junction, with extension into the proximal urethra. The bladder walls in this region are severely thickened (up to 2.22 cm) and irregular. There is evidence of ill-defined hyperechoic to mineralized areas within the mass effect. The remaining bladder wall is moderately thickened (up to 0.55 cm). A moderate to large amount of echogenic to mineralized debris, +/- tiny calculi are observed within the lumen (which is largely occupied by the mass effect).

BREED

Mix

SEX

Female Spayed

The left kidney is normal in size (4.18 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. Moderate pyelectasia is present (0.41 cm in the transverse plane). A scant amount of echogenic debris is observed in the renal pelvis. There is no evidence of infarcts.

AGE

14 years

The right kidney is normal in size (4.33 cm in length) with a normal shape and smooth peripheral contours. The cortex is isoechoic relative to the spleen. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. Hydronephrosis is present (1.45 cm in the longitudinal plane). There is no evidence of infarcts. There is suspected hydroureter.

WEIGHT

5.6 kg

**Adrenal Glands**

The left adrenal gland is mildly enlarged (0.55 cm at cranial pole) (0.68 cm at caudal pole) (1.64 cm in length) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**INTERPRETED BY**

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

The right adrenal gland is mildly enlarged (0.52 cm at cranial pole) (0.73 cm at caudal pole) (1.60 cm in length) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**IMAGING PERFORMED BY**

Hayley Heindel, CVT

**HOSPITAL NAME**

Mason Dixon Animal  
EH

**Spleen**

The spleen is normal in size (0.52 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.

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**Liver**

The liver is normal to slightly prominent in size with normal curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and subtly mottled in appearance. No distinct focal lesions are observed. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

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The gall bladder lumen is moderately distended. The wall is thin and smooth. A small to moderate amount of suspended echogenic debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.

**DATE**

4.21.23



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**Gastrointestinal**

The gastric lumen is moderately distended with hard, shadowing material. The gastric wall is normal in thickness with a normal layering pattern. The pyloric outflow tract appears patent. The small intestinal lumen is not dilated. The small intestinal wall is normal in thickness with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal.

**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 obvious evidence of free fluid.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

- Mass effect in the urinary bladder with extension into the proximal urethra. Neoplasia (i.e., transitional cell carcinoma) is suspected with a lower possibility of a severe inflammatory process. Mineralized urinary bladder debris +/- tiny calculi are present within the lumen.
- Bilateral chronic renal changes with dystrophic mineralization. The right hydronephrosis/hydroureter is suspected to be secondary to obstruction of the right distal ureter due to the mass effect in the region of the trigone. The pyelectasia in the left kidney may be secondary to pyelonephritis, age-related remodeling, and/or obstruction of the left distal ureter due to the mass effect in the urinary bladder.

**Secondary Findings**

- Mild bilateral adrenomegaly
- Minor age-related pancreatic remodeling
- 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 shadowing material within the gastric lumen likely represent incidental foreign material. It appears nonobstructive at this time.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Three-view thoracic radiographs are recommended to assess for pulmonary metastases.
- Consider a urine BRAF test to further evaluate for lower urinary tract neoplasia. A positive result confirms cancer. However, a negative result does not exclude the possibility of neoplasia and further testing (i.e., bladder wall biopsy) may be necessary to get a definitive diagnosis.
- A urine culture and sensitivity is recommended to assess for secondary infection. A free catch sample is recommended in this patient, due to the risk of seeding of the abdomen with neoplastic cells if a cystocentesis is performed.



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- If the patient's urinary bladder status can be stabilized, consider removal of the gastric foreign material (i.e., endoscopically, or surgically), particularly if the patient begins to exhibit clinical signs associated with its presence.

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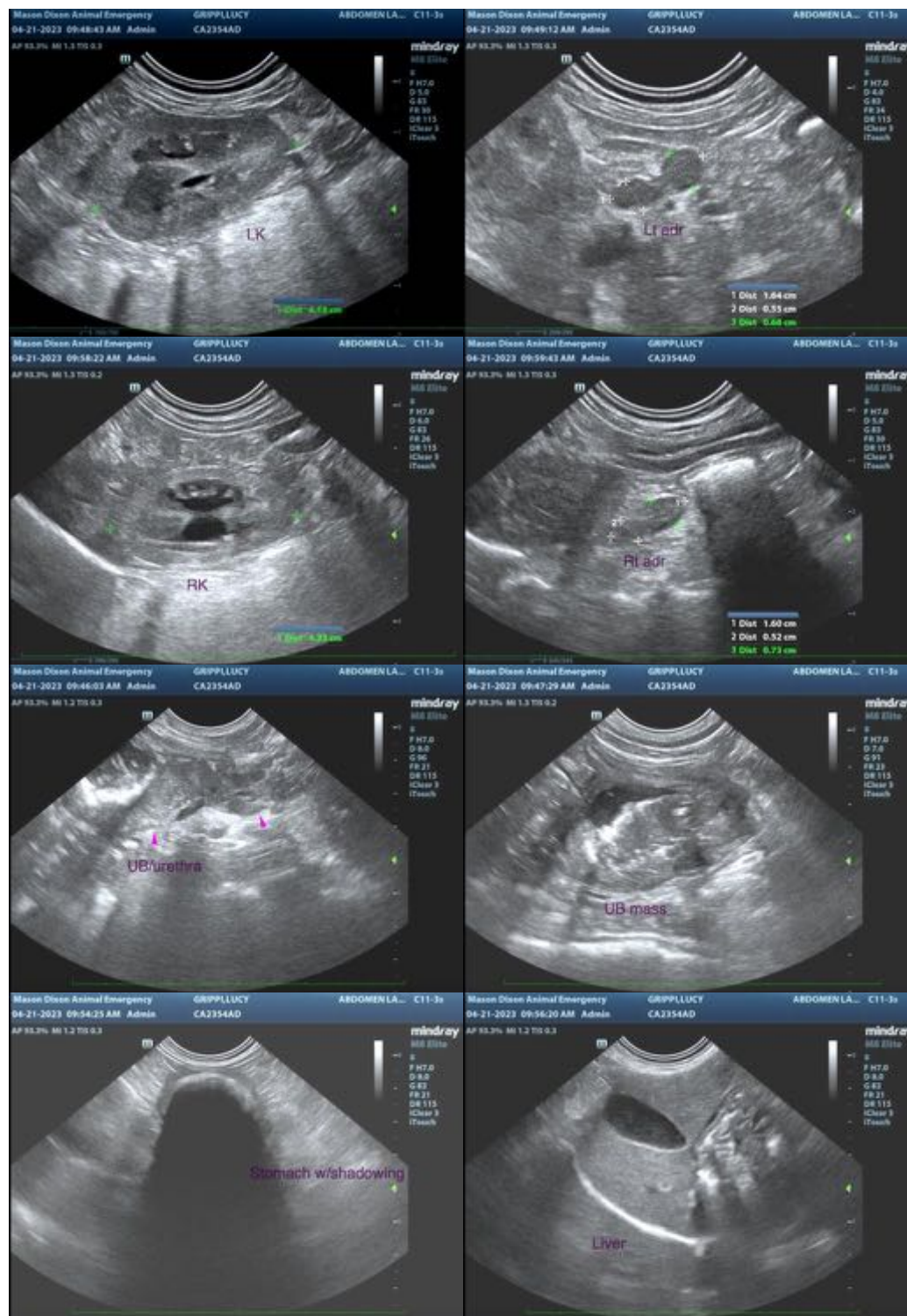
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**SPECIES**

Canine

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.

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