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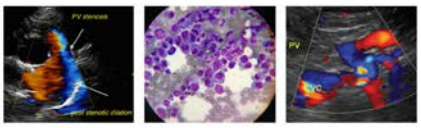

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT

Nikki Heston

SPECIES

Canine

BREED

Lab

SEX

Spayed Female

AGE

6 Years

WEIGHT

81 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Doerscher

INVOICE

36791

DATE

4/6/22

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Non-symptomatic, most recently O reports appetite can be somewhat variable but P seems to be feeling good at home. No V.
Abnormal PE/Chem/CBC/UA Results: Not new patient but new owner as of 12/21. Last BW prior to new ownership was 6/2020 which was unremarkable. In 12/2021, renal values were elevated (SDMA 16, Creat 2.4, BUN 74, Phos 6.5, Ca 11.9). UA showed moderate proteinuria, UP/C = 7.1. Likely hypertensive (hyper dog, difficult to get accurate reading, but most readings >200). Started Benazepril & K/D food. Not symptomatic at all, feeling good. One month later BP normotensive but BUN/Creat/SDMA all slightly worse, UP/C slightly improved (5.7). Added telmisartan, O declined starting Phos binder yet. 4/2/22 recheck - all renal values incl Phos & Ca sig worsened: SDMA 25, CREA 4.5, BUN 96, PHOS 9.1, K 5.6, NA:K ratio 26- UA SpGr 1.011, pH 5.0, Urine prot 3+, rest of UA unremarkable. CBC WNL. Decided to delay add'l meds pending results of AUS.

Urinary System

The urinary bladder is well filled. The wall is smooth and regular and no abnormalities are noted with the trigone or proximal urethra. A mild amount of free floating sediment is observed, without evidence of cystoliths. A smooth soft tissue structure, measuring 7.2 mm in diameter x 9.0 mm in length, is observed arising from the dorsal wall. The latter is most consistent with a polyp. Although a mass in its early stages is considered unlikely, it cannot be excluded.

The left kidney measures 7.47 cm (within normal limits). The capsule is smooth. The cortex is moderately hyperechoic and thicker than what is considered normal. Focal hyperechoic areas are also observed in the cortex. A moderate loss of the normal definition of the cortico-medullary junction is present. A round, anechoic structure with smooth, sharply demarcated thin walls is observed. It is measures 4.5 mm in diameter x 4.6 mm in length; it is consistent with a cyst, that does not deform the capsule. Mild mineralization of the pelvis is present, without signs of nephroliths or pyelectasia. The mesentery surrounding the kidney is mildly hyperechoic. The findings are suggestive of pyelonephritis.

The right kidney measures 7.60 cm (within normal limits). The capsule is smooth. The cortex is mildly to moderately thicker than what is considered normal. It is also moderately hyperechoic, both diffusely, in addition to focal hyperechoic regions. A mild to moderate loss of the normal definition of the cortico-medullary junction is present. A small, round, anechoic structure with smooth, sharply demarcated thin walls is observed. The latter is consistent with a cyst; it does not deform the capsule. Mineralizations of the pelvis are noted, without signs of nephroliths. Pyelectasia is present with anechoic urine, without evidence of hydroureter. The surrounding mesentery is mildly hyperechoic. The findings are suggestive of pyelonephritis.

Adrenal Glands

The left adrenal gland measures 0.69 cm at the cranial pole, which is slightly rounded and "plump". The caudal pole measures 0.50 cm and the gland measures 3.12 cm in length. No abnormalities are noted with the gland's echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The right adrenal gland measures 0.69 cm at the cranial pole, 0.74 cm at the caudal pole, and 3.21 cm in length. The caudal pole is at the high end of the normal reference range, however, no abnormalities are noted with the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

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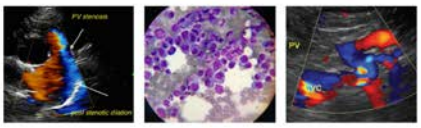

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Liver

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver's echotexture is homogeneous and its echogenicity is within normal limits. No abnormalities are observed with the hepatic vessels.

A mild amount of echogenic material/debris (sludge) is present within the lumen. This is most likely clinically insignificant. Signs of cholecystitis are not appreciated.

Gastrointestinal

The gastric wall and pylorus are within normal limits in thickness. There is no loss of definition of the normal architecture of the wall layers. No obvious abnormalities are observed with its peristalsis.

The small intestinal wall thickness is within normal limits and the definition of the wall layers is preserved. Dilated loops of bowel are not observed. The colonic wall is not thickened and mural detail is considered normal. There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction.

Pancreas

No overt abnormalities are observed. There is no evidence of hyperechogenicity of the surrounding mesenteric fat, i.e., there are no signs of active pancreatitis.

Other

Lymph nodes: Mesenteric lymph nodes are within normal limits in size, architecture, echotexture, and echogenicity.

A cavitary structure measuring 1.50 cm in diameter x 3.14 cm in length is identified medial to the right kidney. It is most consistent with a cystic lymph node, possibly due chronic lymphadenitis.

Abdominal effusion is not visualized.

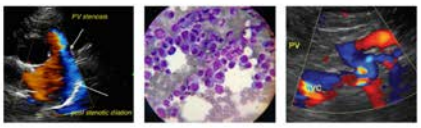
ULTRASONOGRAPHIC FINDINGS

The renal changes are suggestive of chronic renal disease, however, underlying glomerulonephritis cannot be excluded. The pyelectasia of the right kidney is larger than one would expect from an individual suffering from PU/PD, however, an obvious obstruction is not identified. Bilateral pyelonephritis is suspected based on a number of sonographic changes observed. The renal cysts are not considered clinically significant.

The soft tissue structure noted on the dorsal wall of the urinary bladder is most likely a polyp, which is often associated with urinary tract infections. The latter cannot be excluded despite the thin and smooth bladder wall. Although considered much less likely, a sonographic re-evaluation of the urinary bladder is suggested to exclude a mass in its early stages of development.

The caudal pole of the right adrenal gland is at the high end of the normal reference range, while the cranial pole of the left adrenal gland is slightly rounded. These changes may be suggestive of hyperplasia and a benign adenoma, respectively. That is, hyperplasia, due to stress and chronic illness, such as renal disease, is also possible. Pituitary dependent hyperadrenocorticism is considered less likely. There are no obvious signs of neoplasia. These are most likely incidental findings and not clinically relevant to Nikki's current clinical signs. Although not crucial, a re-evaluation of the adrenal glands may be performed in 3-6 months, i.e. clinical signs are more important than sonographic abnormalities.

A cavitary structure identified medial to the right kidney is most consistent with a cystic lymph node, possibly due chronic lymphadenitis.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A urine culture and sensitivity is recommended, however, treatment with enrofloxacin is strongly suggested pending the results as pyelonephritis is suspected Prolonged treatment (6-8 weeks) is necessary for the treatment of pyelonephritis. Although not ideal, a single dose of cefovecin (Convenia) may be administered pending the culture results due to Nikki's hyporexia.

Underlying glomerulonephritis cannot be excluded as the cause of Nikki's chronic renal disease. Further diagnostics are suggested, including the evaluation of leptospirosis, tick borne diseases and heartworm disease.

The following are suggested:

Discontinue benazepril due to the marked increase in renal parameters (greater than a 25-30% increase in renal parameters observed, in addition to hyporexia)

Decrease the dose of telmisartan to 0.25 mg/kg per day for 1 to 2 weeks

Add amlodipine to control arterial blood pressure

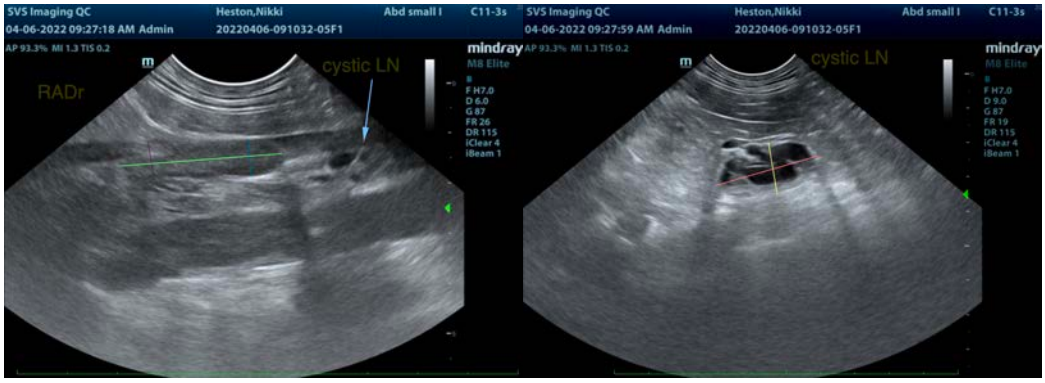
Re-evaluation of renal parameters, including the SDMA, in 7-10 days

Slow up-titration of the telmisartan dose will be made based on renal parameters.

Phosphate binder, such as aluminum hydroxide, for example, PhosBind (Rx Vitamins) is strongly recommended; slow introduction over a few days to avoid food aversion

Introduction of a canned renal diet and/or additional water to dry food to increase water consumption as much as possible

Nikki is a complicated patient, and although some treatment recommendations have been described, an internal medicine consult is suggested in order to describe all possible options, and follow up, in further detail.



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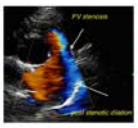
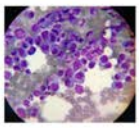
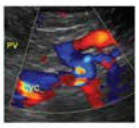

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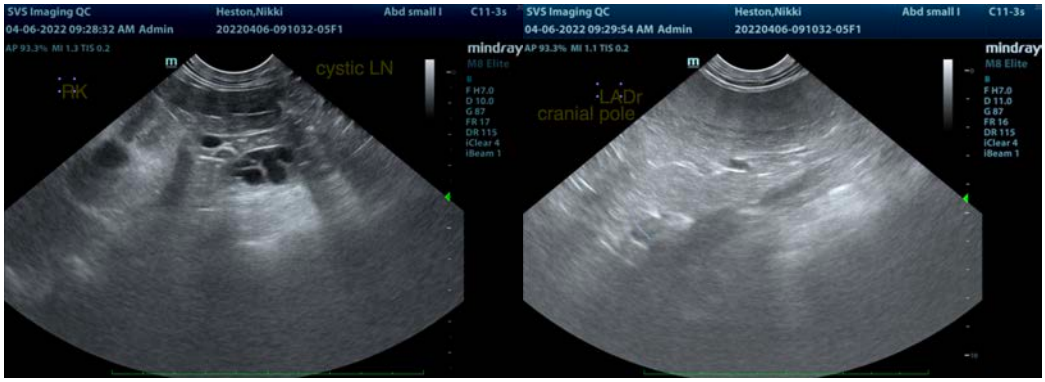

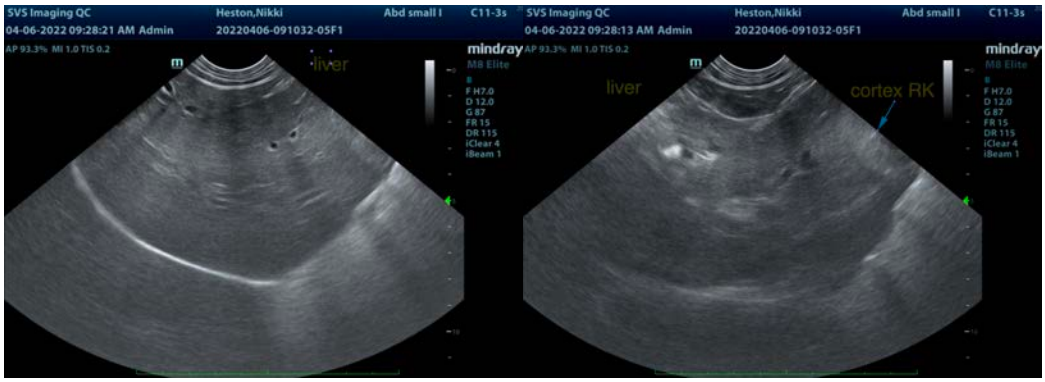

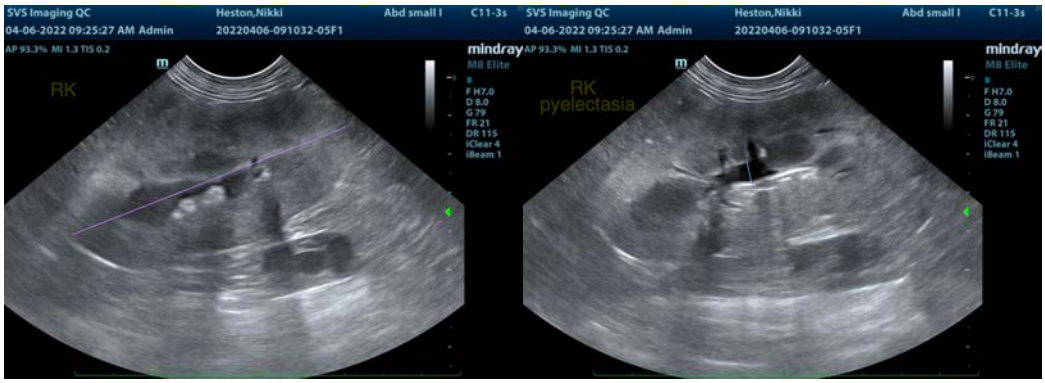

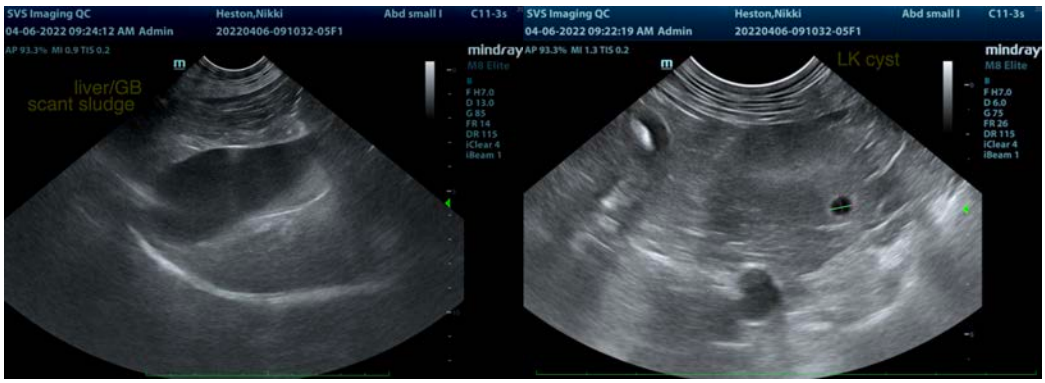

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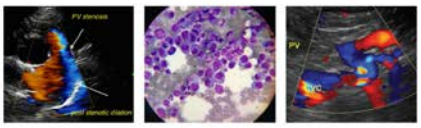

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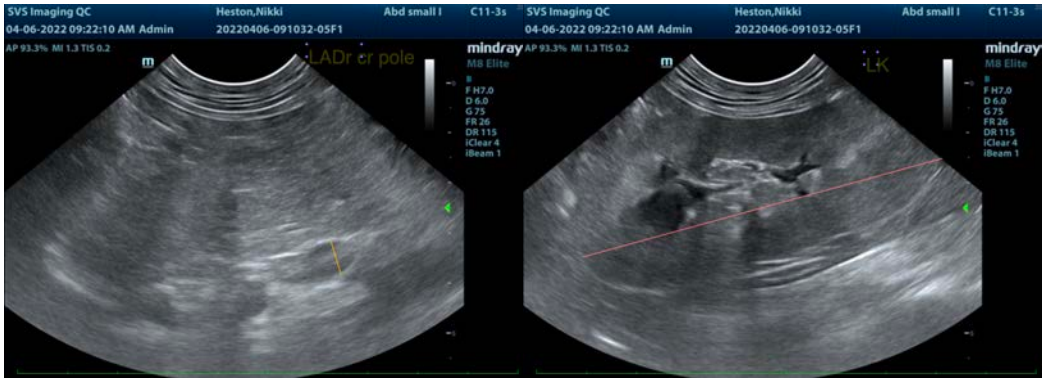

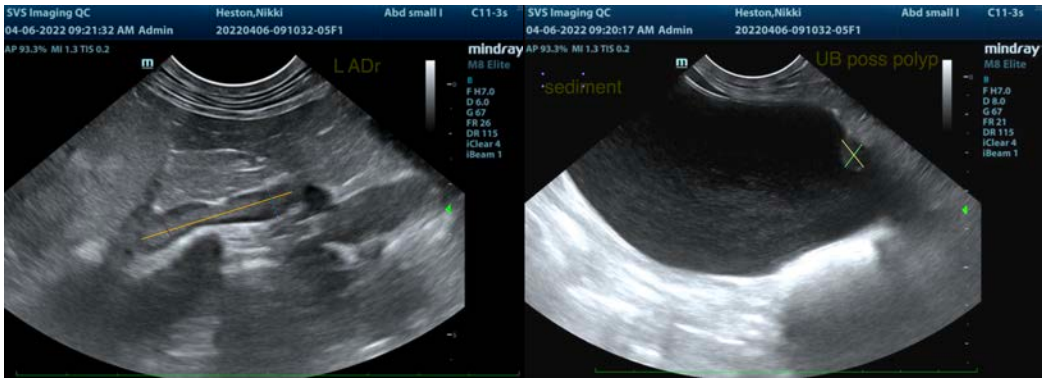

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

Lisa.Carioto@sonopath.com