**PATIENT**

Adelle Simkowski

**SPECIES**

Canine

**BREED**

Border Collie

**SEX**

Spayed Female

**AGE**

13.5 years

**WEIGHT**

35 Pounds

**INTERPRETED BY**Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM**IMAGING PERFORMED BY**

Amy Mayhew LVT

**HOSPITAL NAME**

SVS Imaging Michigan

**REFERRING VET**

Union Lake VH

**INVOICE**

30055

**DATE**

5/2/22

**PRESENTING CLINICAL SIGNS**

Abdominal mass found on palpation and radiographs. Concern for renomegaly. Iris stage 2 renal disease diagnosed January 2022. Appetite has been decreased. Recent bout of diarrhea while boarding.  
\*Splenectomy and cholecystectomy November 2020.

Abnormal PE/Chem/CBC/UA Results: see attached BW \*\*CAN PROVIDE ABDOMINAL RADS IF NEEDED.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

The urinary bladder is adequately distended with anechoic contents. The wall is very mildly thicker than normal at 1.5 mm, and slightly irregular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass. One of the ureteral papilla is visualized and unremarkable.

**Kidneys**

The **left** kidney measures 5.26 cm. The capsule is smooth, however, the cortex is moderately hyperechoic and a moderate loss of the normal definition of the cortico-medullary junction is present. Pinpoint mineralizations are present within the cortex, as well as mineralizations of the diverticulae, without evidence of nephroliths. Pyelectasia is present; longitudinal view: 5.86 mm, transverse view: 3.74 mm. The surrounding mesentery is very mildly hyperechoic.

The **right** kidney measures 5.11 cm in length. The antimesenteric portion of the capsule is smooth, however, that portion of the cortex is moderately to markedly hyperechoic and a moderate to marked loss of the normal definition of the cortico-medullary junction is present. The cortex is also mildly thicker than normal. Pinpoint mineralizations are present within the cortex. The mesenteric portion of the medulla and pelvis are replaced by a round, well delineated, severely heterogeneous mass. The diameter, including the capsule of the kidney, is approximately 9.33 cm. The mass consists of multiple anechoic thin walled structures of variable size. It is avascular when evaluated with colour Doppler. The thin walled structures are most consistent with cysts. In a different view, the mass (without the right kidney) measures approximately 10 cm x 10 cm. Vascularization of the kidney is very good.

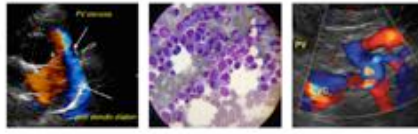
**Aortic bifurcation/trifurcation**

No abnormalities observed.

**Adrenal Glands**

The **left** adrenal gland measures 0.84 cm at the cranial pole and 1.06 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland is not visualized due to the large cystic mass observed. See right kidney, above, and left liver, below. The surrounding vasculature is not visualized.

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**Spleen**

Splenectomy performed November 2020.

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**Liver**

There are no obvious signs of hepatomegaly and its borders are smooth and mildly rounded. The right liver's echotexture is homogeneous, but is, subjectively, mildly hyperechoic. The liver appears very mildly heterogeneous, with a mild miliary or "moth eaten" appearance, when evaluated in a sagittal view. The latter is not hyperechoic compared to the right liver. No abnormalities are observed with the hepatic vessels visualized, i.e. porta hepatis evaluated with blood vessels in transverse view. Note, the cystic mass effect noted in the left transverse view is attributed to the right kidney.

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Cholecystectomy performed November 2020.

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**Gastrointestinal**

A moderate amount of gas is present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

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The duodenum is within normal limits. The definition of the wall layers is preserved.

No obvious abnormalities are observed with the small intestines. Abnormally dilated loops of bowel are not observed.

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The colonic wall is not thickened and mural detail is considered normal. Soft stools are present within the colon.

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**Pancreas**

The left limb has a mildly coarse echotexture. These changes are most likely due to nodular hyperplasia and areas of fibrosis, which are considered secondary to age and possibly to previous episodes of pancreatitis, respectively. Signs of active pancreatitis or neoplasia are not appreciated.

The right limb is mildly heterogeneous, with hypo to anechoic lacunar lesions. The lesions are suggestive of fluid filled cysts.

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**Lymph nodes** No obvious abnormalities are observed, however, subtle lesions may have been overlooked due to the large cystic lesions in the abdomen.

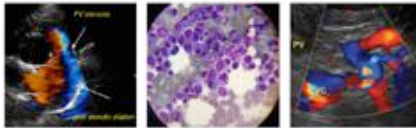
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**Abdominal effusion** is not visualized.**DATE**

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**ULTRASONOGRAPHIC FINDINGS**

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- Renal mass consisting of complex mixed echogenic micro and macrocystic lesions disrupting the pelvic architecture and causing capsular expansion. The surrounding mesentery is hyperechoic, which is suggestive of inflammation. Differential diagnoses include a carcinoma, adenocarcinoma, and hemangiosarcoma. However, severe polycystic kidney disease cannot be excluded.
- Pyelectasia of the left kidney may be due to polydipsia and polyuria, depending on clinical signs, or possibly increased pressure due to ineffective function of the right kidney.
- A urinary tract infection cannot be excluded based on the very mildly thickened mucosa of the urinary bladder.
- The changes observed with the left limb of the pancreas are suggestive of age-related changes, such as nodular hyperplasia and fibrosis. The right limb, however, shows age-related changes, as well as lesions that may be cystic in nature, therefore, metastatic disease cannot be excluded.
- The large mass observed while evaluating the left liver (transverse view), is consistent with the right kidney, i.e. the right kidney is very large and extends onto the left side of the abdomen. However, the left liver has a mild "moth eaten", heterogeneous echotexture, which may be due to metastatic disease if the primary disease process is neoplasia, such as hemangiosarcoma, adenocarcinoma or carcinoma. Other differential diagnoses include nodular hyperplasia, mineralization, fat deposition and fibrosis, as well as polycystic disease, which can also affect the liver in some dogs.
- Adrenomegaly of the left gland, without evidence of a mass. The right is not visualized. The adrenomegaly may be due to hyperplasia secondary to chronic illness. Pituitary dependent hyperadrenocorticism, without clinical signs, cannot be excluded. Further diagnostics are not recommended as false positive results are likely due to concurrent illness.
- Very mild anemia that is normocytic and hypochromic, with an inadequate number of reticulocytes and thrombocytosis, i.e. iron deficiency anemia is highly suspected, although microcytosis is not yet present.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Analgesia is recommended (see below).

A coagulation profile is recommended prior to performing a FNA. Administration of vitamin K (0.5 mg/kg SQ q8-12h for 1-3 doses) is suggested even if the results of the PT/PTT are within normal limits.

Fine needle aspirates of the kidney and liver are recommended. Attempts may be made to drain the cystic lesions of the kidney as much as possible (using a three way stopcock attached to an extension set and syringe), as this will decrease capsular distention and discomfort.

Supplementation with iron dextran intramuscularly every 4 weeks may be considered.

A low phosphorus diet is highly recommended. However, quality of life is the most important factor, in addition to ensuring she eats well and does not develop sarcopenia. If necessary, she may eat a senior diet with supplementation of a phosphate binder, such as Phosbind (Rx Vitamins), which does not tend to affect palatability.

A urine culture and sensitivity is recommended.

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An arterial blood pressure is recommended, in addition to a fundic exam to exclude hypertension associated with chronic renal disease. However, analgesia, such as gabapentin, buprenorphine or methadone is suggested to decrease pain associated with capsular stretching of the right kidney, as pain may increase blood pressure.

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Treatment of diarrhea may be pursued using a clay based paste, such as EnteroAid (Grey Wolf Animal Health), as well as a synbiotic (a product containing a probiotic and prebiotic).

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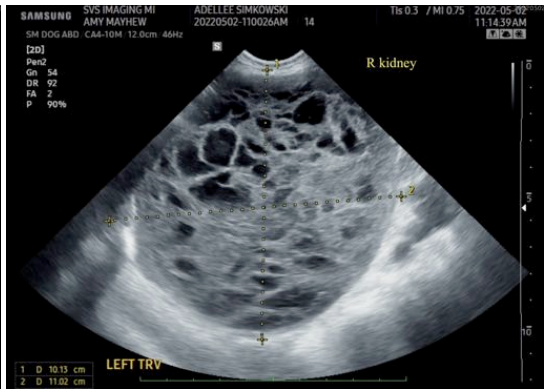
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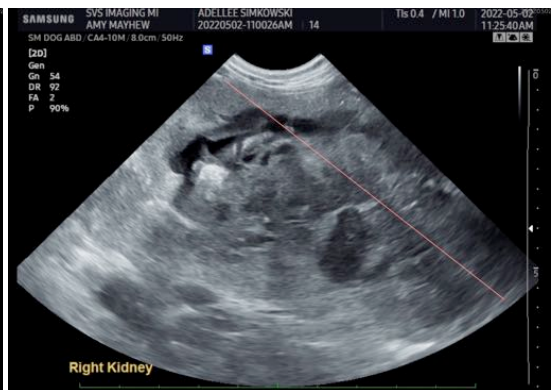
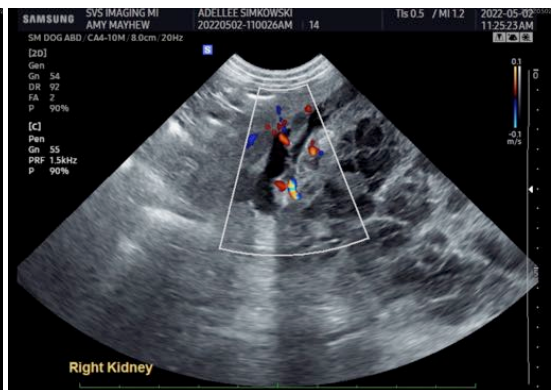
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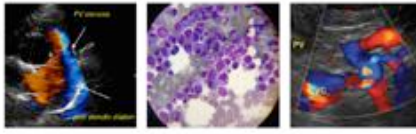
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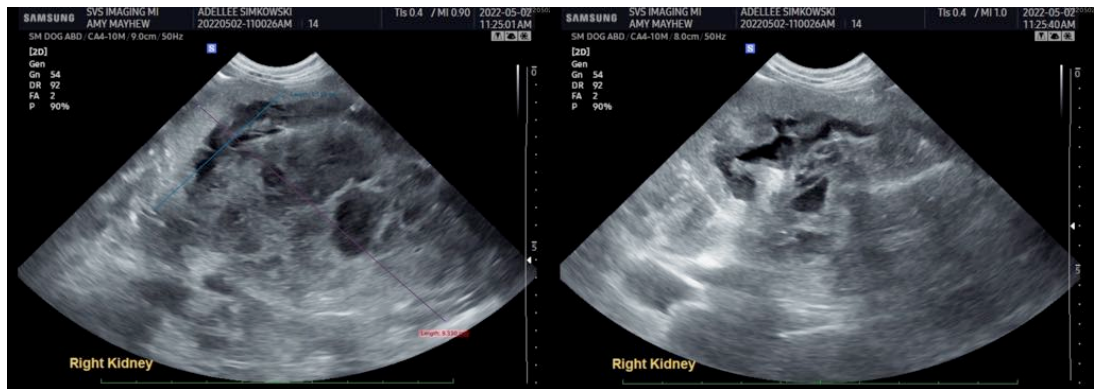
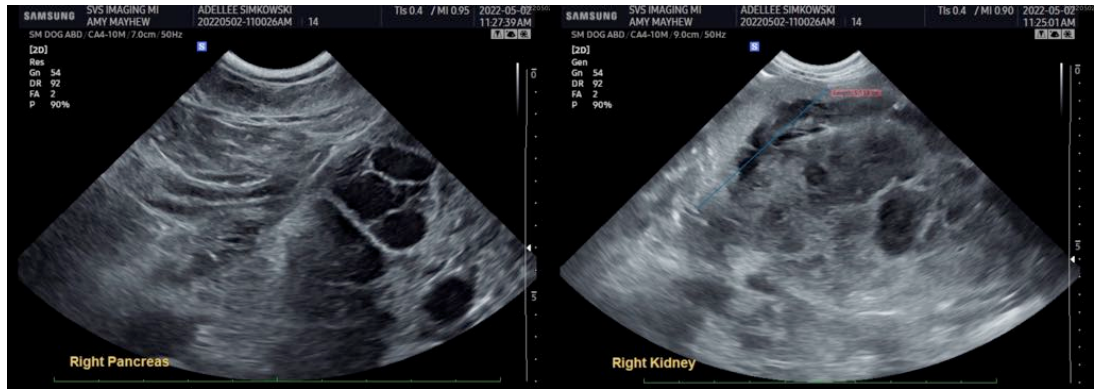
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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