

**PATIENT**

Tucker Buffa

SPECIES

Canine

BREED

Cock-A-Poo

SEX

Neutered Male

AGE

11 Years

WEIGHT

22.5 Pounds

INTERPRETED BYKathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)**IMAGING PERFORMED BY**

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

REFERRING VET

Dr. Fitz' Bayside AC

INVOICE

39833

DATE

7/26/22

PRESENTING CLINICAL SIGNS

On/off diarrhea, chronic allergies. Possible reverse sneeze vs gag.

Abnormal PE/Chem/CBC/UA Results: Proteinuria found on UA. All other bloodwork/ PE = WNL

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, or masses. There is a small hyperechoic shadowing structure visualized near the trigone in the dependent portion of the urinary bladder measuring 0.52 cm, most consistent with a small stone or an accumulation of mineralized debris.

The prostate is normal in size (0.81 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (4.5 cm) with mild pyelectasia at 0.26 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.12 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 0.43 cm at the cranial pole, 1.02 cm at the caudal pole, and 1.8 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat atypical in appearance in that the caudal pole is enlarged with a non-discrete mass effect measuring 1.02 cm x 1.08 cm. There is no evidence of vascular invasion visualized.

The right adrenal gland is normal in size measuring 0.55 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a discrete mixed echogenic, mildly cavitated mass effect visualized in the body of the spleen, measuring 1.21 cm x 1.78 cm.

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous hypoechoic nodules visualized throughout the hepatic parenchyma, varying in size from 0.5-1.5 cm.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

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Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measured 0.32 cm. Jejunum wall measured 0.30 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

PRIMARY FINDINGS

- Hyperechoic shadowing foci in the dependent portion of the urinary bladder – most consistent with a small stone or accumulation of mineralized debris. Recommend urinalysis and culture. Correlate with abdominal radiographs.
- Enlarged caudal pole of the left adrenal gland – Left/right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Mixed echogenic, mildly cavitated mass effect in the body of the spleen – A mildly heterogeneous mass with cavitations is present. This mass does not obviously distort the splenic capsule. Differentials would include neoplasia (hemangiosarcoma, hemangioma, etc.), hematoma, abscess, other.
- Heterogeneous liver with diffuse hypoechoic nodules – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The appearance of the hypoechoic nodules favors a benign process, but underlying neoplasia cannot be excluded as a possibility.

SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys with mild pyelectasia of the left kidney – The bilateral renal findings are consistent with age-related change. Pyelectasia of the left kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

An obvious cause for the diarrhea reported is not observed. No gastrointestinal lesions were visualized, but this is not uncommon for a patient with diarrhea. Consider a novel protein/hydrolyzed protein prescription diet, chronic probiotic therapy, and a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further evaluate this problem.

Numerous other lesions were visualized on today's exam, which are likely unrelated to the diarrhea, but could be contributing to the proteinuria reported.

There is a small stone in the urinary bladder. Confirm this finding and the size of the stone with abdominal radiographs. Recommend urinalysis and culture. If this is symptomatic and/or there is infection present, consider cystotomy.

The caudal pole of the left adrenal gland is enlarged. The appearance of this is relatively smooth, and there is no obvious evidence of vascular invasion. These are my recommendations for further evaluation of an adrenal nodule, as these lesions can be benign or malignant and can secrete hormones or be non-active.

- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of cushings are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.

There is a mixed echogenic, mildly cavitated mass lesion in the body of the spleen. This does not significantly distort the splenic capsule, and could be consistent with a benign lesion or an early neoplastic lesion. Options moving forward include splenectomy for both diagnostic and therapeutic purposes, or a fine needle aspirate and continued monitoring with ultrasound.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

The liver is heterogeneous and diffusely nodular. These nodules do not appear to be deforming the hepatic margins significantly. Consider a fine needle aspirate of the liver.

As always in cases with proteinuria, I generally recommend full infectious disease screening through NC State's vector borne disease lab (canine comprehensive panel), blood pressure evaluation, and depending on the severity, early intervention.

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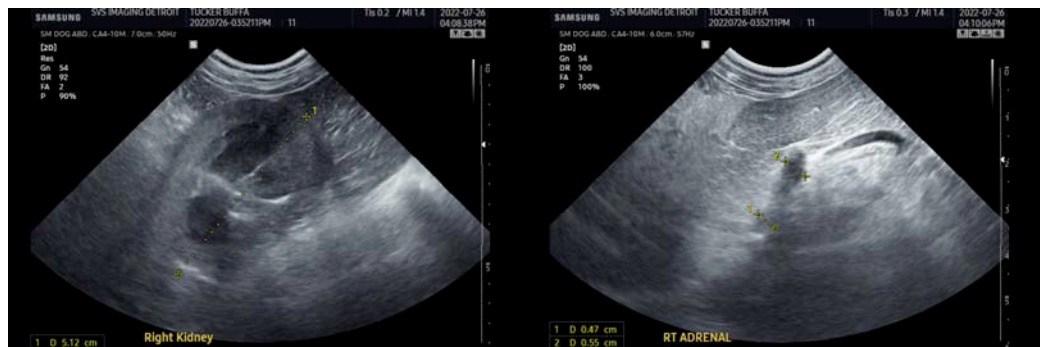
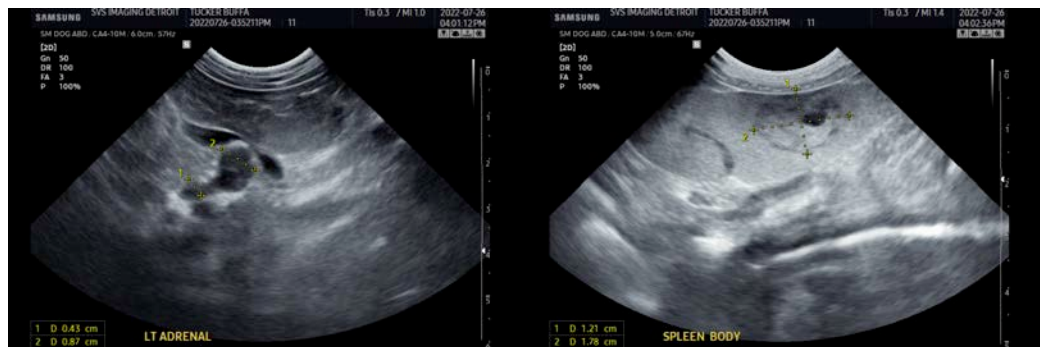
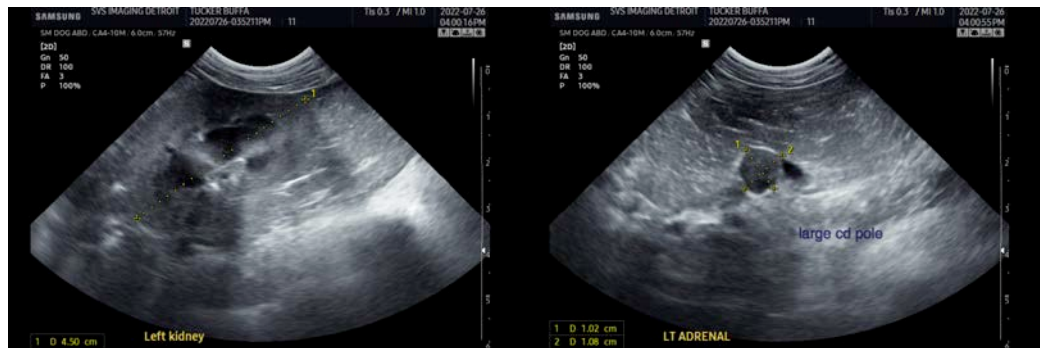
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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