



**PATIENT**

Smokey Busch

**SPECIES**

Canine

**BREED**

Miniature Schnauzer

**SEX**

Male, neutered

**AGE**

11 Yrs. 7 months

**WEIGHT**

18.6 lbs.

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Dr. Evoniuk

**HOSPITAL NAME**

State Avenue VC

**REFERRING VET**

Dr. Evoniuk

**INVOICE**

14750

**DATE**

3/15/23

**PRESENTING CLINICAL SIGNS**

History: Hx of inappetence, anorexia, intermittent vomiting reported, hx of pancreatitis seemingly controllable with low-fat diet, low dose of dexamethasone suppression test started today, US to check liver and kidney

Abnormal PE/Chem/CBC/UA Results: 2/15/2023 TT4- 0.7 Ug/dl ALP- 908 U/L ALT- 282 U/L AMY- 1379 U/L BUN- 44 mg/dl CREA- 1.6 mg/dl

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder is moderately distended. Along the mid-dorsal wall, at least one polypoid like lesion is observed (along the dorsal wall) measuring 0.96 cm. The remaining bladder wall is normal in thickness with a smooth mucosal surface. A small to moderate amount of suspended echogenic debris is observed within the lumen. A 0.83 cm aggregation of mineralized debris +/- stone is also seen. The region of the trigone and the visible portion of the proximal urethra are normal.

The prostate is normal in size (1.22 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The left kidney is subjectively normal size with smooth curvilinear peripheral contours. The cortex is isoechoic to hyperechoic relative to the spleen and diffusely thickened with moderate loss of corticomedullary distinction. 1-2 small cortical cysts are seen. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

The right kidney is normal size (5.18 cm in length) with smooth curvilinear peripheral contours. The cortex is isoechoic to hyperechoic relative to the spleen and diffusely thickened with moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

*Adrenal Glands*

The left adrenal gland is mildly enlarged (0.56 cm at cranial pole) (0.58 cm at caudal pole); 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.

The right adrenal gland is normal size (0.67 cm at cranial pole) (0.45 cm at caudal pole); 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.

*Spleen*

The spleen is normal in size (1.88 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.

*Liver*

The liver is subjectively enlarged with slightly irregular peripheral contours in the region of the left lateral lobe. The remaining peripheral margins are swollen and smooth. The parenchyma is isoechoic relative to the spleen and subtly heterogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall



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

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**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.

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**Pancreas**

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The right limb of the pancreas is normal in size 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.

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**Free Abdomen**

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

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**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings:**

- An obvious cause for the patient's clinical signs is not definitively identified in this study. Considerations include microscopic gastrointestinal disease, mild pancreatitis, underlying metabolic issue, occult neoplasia, other.

**Secondary Findings:**

- The polypoid lesion(s) seen in the urinary bladder could be consistent with polypoid cystitis or less likely, emerging neoplasia (i.e., transitional cell carcinoma). There is also suspected mineralized urinary bladder debris +/- cystic calculus.
- The bilateral renal changes are most consistent with chronic interstitial nephrosis/nephritis with dystrophic mineralization.
- Mild left adrenomegaly.
- The hepatic parenchymal changes are most consistent with a benign process (i.e., vacuolar hepatopathy (i.e., endocrine, idiopathic) and or regenerative nodular hyperplasia). However, there is a lower possibility of inflammatory disease, fibrosis, infiltrative neoplasia and other hepatopathies.
- Gallbladder debris- incidental.
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

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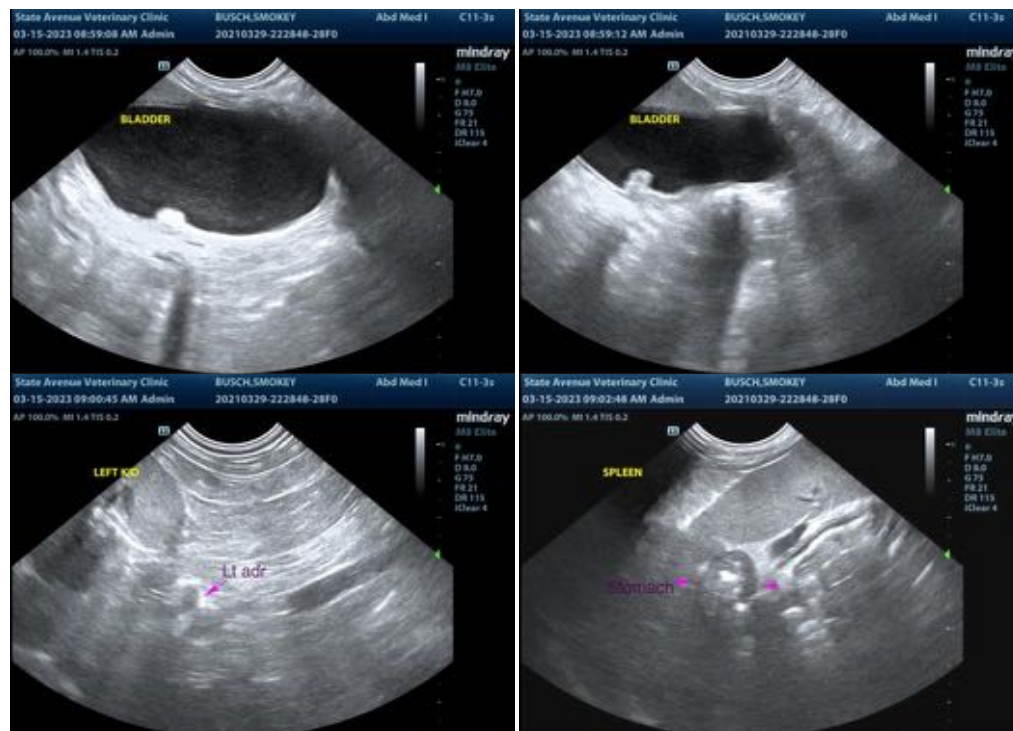
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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the elevated liver enzymes, consider pre and post prandial serum bile acids to assess hepatic function.
- Given the borderline azotemia, consider the following:
  - Urinalysis
  - Urine culture and sensitivity
  - UPC (if proteinuria is present in the absence of infection)
  - Baseline blood pressure measurement
  - Also consider three-view thoracic radiographs to assess for occult disease in the chest.
  - A malabsorption panel including serum cobalamin, folate, TLI and PLI as well as a fecal evaluation for ova and giardia should also be considered.
  - While awaiting test results, symptomatic care along with initiation of a probiotic should be considered.
- Regarding the urinary bladder lesions, consider a urine BRAF test to further assess for neoplasia. A positive test confirms cancer. However, a negative test does not rule out the possibility of neoplasia. If a negative result is obtained, consider biopsy of the bladder wall lesions to get a definitive diagnosis.





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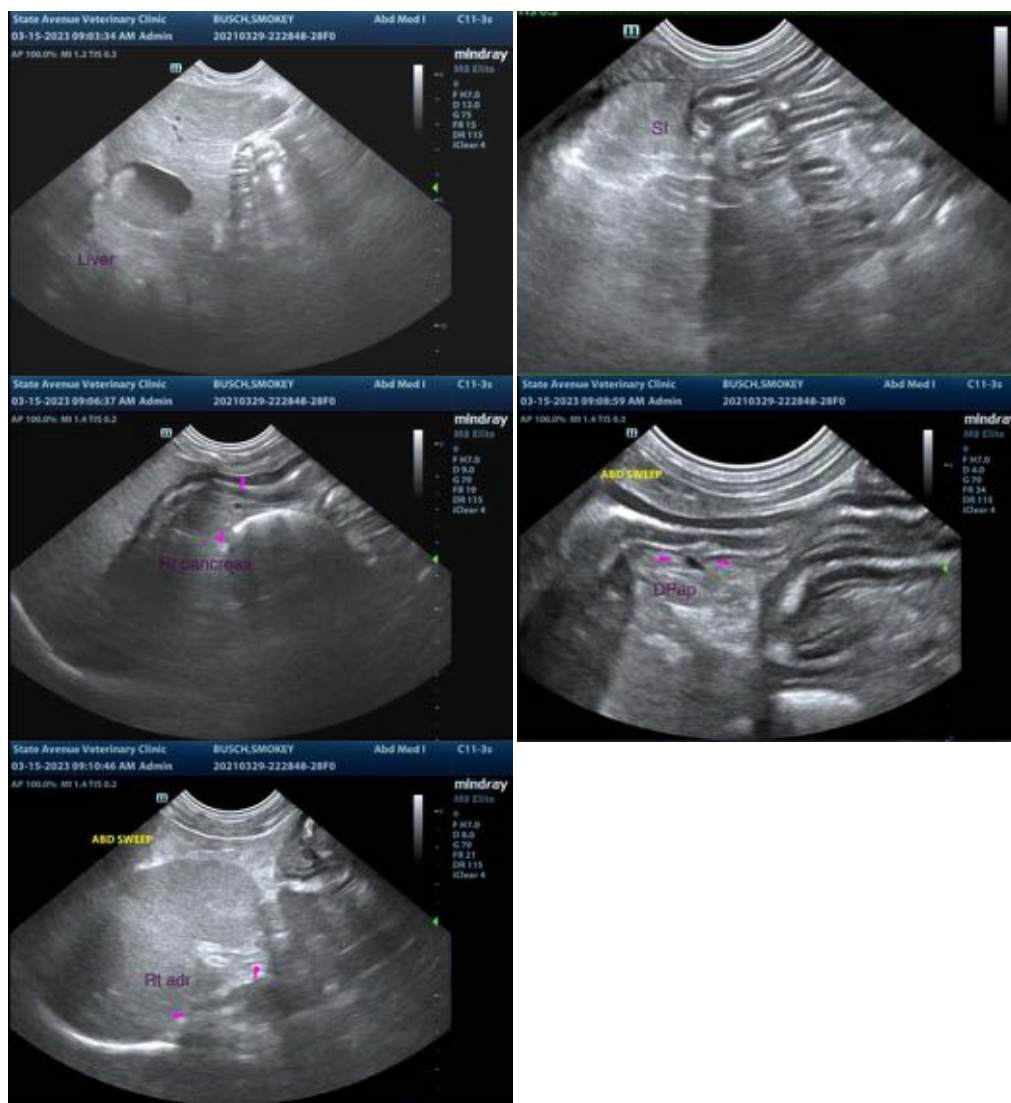
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)  
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