



**PATIENT**

Rocco Shelton

**SPECIES**

Canine

**BREED**

Boston Terrier

**SEX**

Male, neutered

**AGE**

14 Yrs.

**WEIGHT**

33.83 lbs.

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Amy Mayhew

**HOSPITAL NAME**

SVS Imaging

**REFERRING VET**

Wixom Family Pet  
Practice

**INVOICE**

14272

**DATE**

11/23/22

**PRESENTING CLINICAL SIGNS**

History: Current Medications: • Dasuquin Advanced Sm/Med • Galliprant 60 mg 1/2 tab SID Patient History: Two previous episodes of self-resolving vestibular disease Chronic history of hepatopathy and thrombocytosis on blood work

Abnormal PE/Chem/CBC/UA Results: Abnormal Examination Findings: OU) Nuclear sclerosis Dental calculus, Gingivitis Left stifle - osteoarthritis AST 82 (15-66) ALT 350 (12-118) ALP 5084 (5-131) CHOL 411 (92-324) K 5.8 (3.6-5.5) PLT 894 (170-400) ACTH pending

USG 1.024, 3+ proteinuria, bacteriuria, 4DX negative.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder is mildly distended with anechoic urine. A 0.71 cm focal hypoechoic nodule/mass is observed in the ventral wall. The lesion causes expansion of the serosal surface. The remainder of the wall is of appropriate thickness for the level of repletion. The mucosal surface is slightly irregular. No cystic calculi are observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The prostate is normal in size (0.56 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The left kidney is normal size (5.61 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is hyperechoic. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. A few cortical cysts are seen, the largest measuring 1.02 cm in diameter. Mild pyelectasia is present (0.26 cm in the transverse plane). There is no evidence of infarcts or hydroureter.

The right kidney is normal size (5.42 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is hyperechoic. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. At least one small cortical cyst is present. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

*Adrenal Glands*

The left adrenal gland is normal size (0.81 cm at cranial pole) (0.61 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 (0.64 cm at cranial pole) (0.67 cm at caudal pole) with a slightly irregular shape. The parenchyma is hyperechoic slightly heterogeneous in appearance with some loss of glandular detail. Surrounding vasculature appears normal.

*Spleen*

The spleen is normal in size (1.62 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. Numerous varying sized, irregular, hyperechoic nodules/areas are observed throughout the organ. Splenic vasculature is normal.

*Liver*



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The liver is subjectively enlarged with slightly swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely heterogeneous and mottled in appearance. At least one hyperechoic nodule is visualized measuring 2.11 cm in diameter. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of aggregated echogenic suspended sludge in a partially stellate pattern is observed within the lumen. The cystic and common bile ducts are normal/not seen.

**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.

**Pancreas**

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

**Free Abdomen**

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

**Other**

A 0.48 cm irregular, echogenic structure is observed in the region of the aortic trifurcation.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings:**

- Diffuse hepatopathy. Differentials include benign change (i.e., regenerative nodular hyperplasia, vacuolar hepatopathy and/or age-related remodeling). Alternatively, a more insidious process (i.e., inflammatory disease or infiltrative neoplasia) cannot be completely excluded.
- The gallbladder changes are consistent with a developing mucocele.
- The urinary bladder wall nodule is concerning for an emerging tumor. However, a focal inflammatory process is also possible.

**Secondary Findings:**

- Bilateral, chronic age-related renal changes with dystrophic mineralization.
- The right adrenal parenchymal changes are most consistent with early hyperplastic change.
- The hyperechoic splenic lesions are most consistent with a benign process (i.e., myelolipomas, lipogranulomas) with a low possibility of emerging neoplasia.
- The intravascular echogenic lesion in the region of the aortic trifurcation may represent imaging artifact, small thrombus, other.



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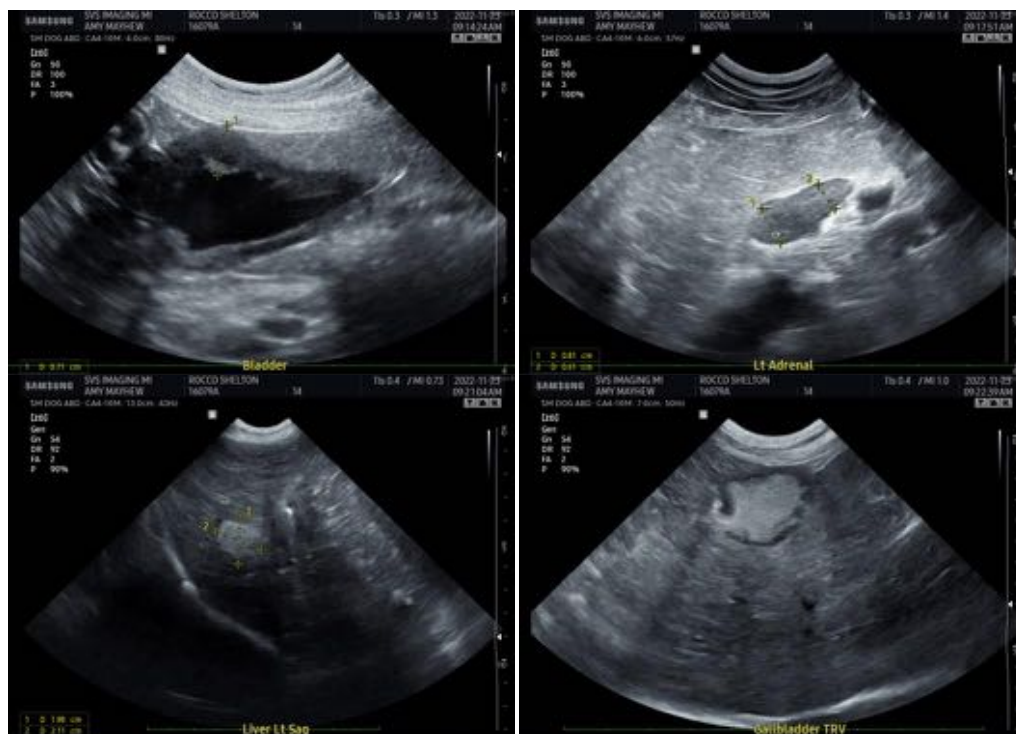
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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Regarding the elevated liver values, consider the following:
  - Pre and post prandial serum bile acids.
  - Hepatic tissue sampling (i.e., fine needle aspirate or biopsy- laparoscopic or surgical). If biopsies are pursued, copper quantitation is recommended along with aerobic and anaerobic bile cultures.
  - Given the gall bladder changes, Ursodeoxycholic acid (Ursodiol) at 10-15 mg/kg once a day is recommended. Serial sonographic monitoring (e.g., every 6-8 weeks) of the gall bladder is recommended to assess for progression to a fully-formed mucocele.
- Regarding the urinary bladder nodule, a urine BRAF test is recommended to further assess for lower urinary tract neoplasia. It should be noted, however, that a negative result does not completely rule out the possibility of cancer and further testing may be warranted.
- Regarding the intravascular lesion at the aortic trifurcation, consider a recheck ultrasound in 3-4 weeks to reevaluate the region.





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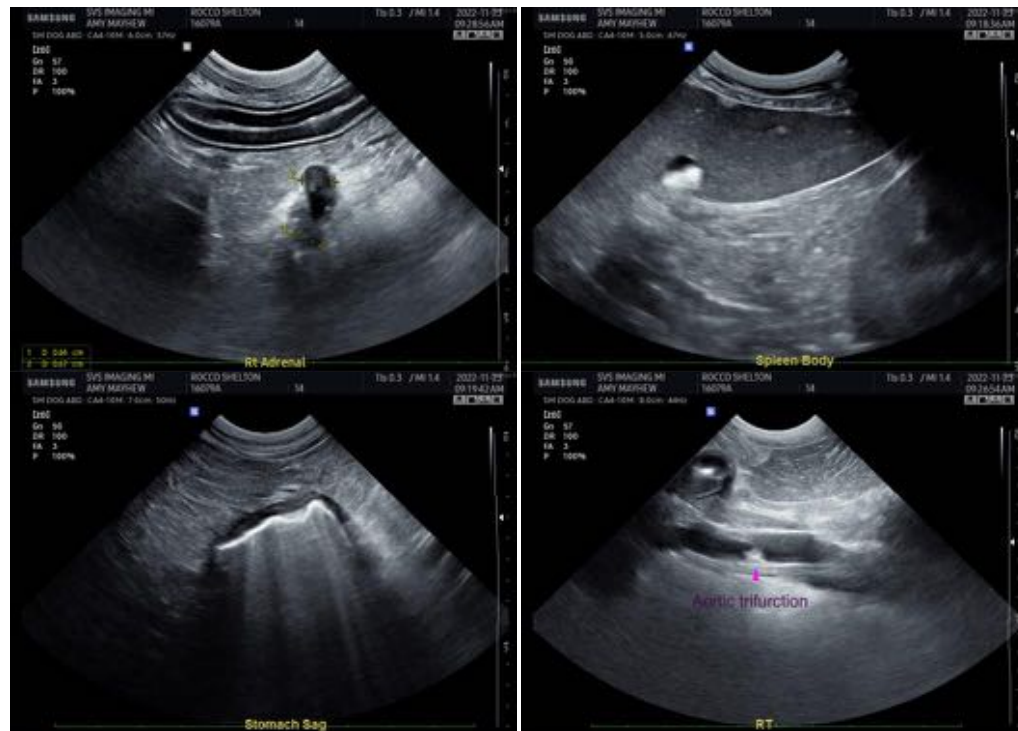
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)  
[info@SonoPath.com](mailto:info@SonoPath.com)