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Clinical Sonography & Telecytology
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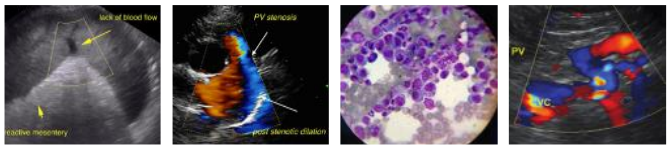


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Boots Finzel

SPECIES
Canine

BREED
Cocker Spaniel Mix

SEX
Spayed Female

AGE
14 Years 11 Months

WEIGHT
17 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Amy Mayhew, LVT

HOSPITAL NAME
SVS Imaging MI

REFERRING VET
Dr. Cullen

INVOICE
23311

DATE
7/10/23

PRESENTING CLINICAL SIGNS

History: Presented for Dental Cleaning on 6/21/23 (severe dental disease), but CBC showed anemia. History of bleeding from the mouth

Abnormal PE/Chem/CBC/UA Results: Doctor also found a 1.3cm mass on the left liver lobe.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is only mildly distended. Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface. If there are urinary signs and/or concern for urinary bladder pathology, reassessment after complete filling is recommended.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. Small cortical cysts are noted bilaterally. The left kidney measures 4.33 cm. The right kidney measures 4.73 cm.

Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. Left adrenal gland measures 0.77 cm at the cranial pole and 0.62 cm at the caudal pole. Right adrenal gland measures 0.76 cm at the cranial pole and 0.79 cm at the caudal pole.

Spleen

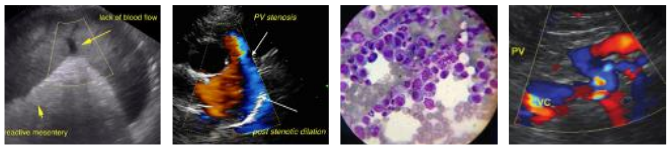
Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). Multiple hypo- to anechoic non-capsule-disrupting nodules are noted, several of which are <0.5 cm in diameter the largest of which measures approximately 1.5 cm x 1.0 cm in size. Splenic vasculature appears normal.

Liver

Liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. In the mid caudal liver, a 3.6 cm x 4.0 cm heterogenous iso- to slightly hypoechoic mass, as well as in the left caudal liver, a 1.3 cm x 1.5 cm heterogenous hypoechoic nodule/mass is noted. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion.

Gastrointestinal



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The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The colon is mildly thick, primarily the descending colon, measuring 0.6 cm thick with normal intact wall layering and normal contents.

Pancreas

Pancreas is prominent in size with swollen irregular contour, primary visible in the right limb. Parenchyma is heterogenous characterized by hyperechoic tissue remodeling intermixed with ill-defined hypoechoic nodules. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

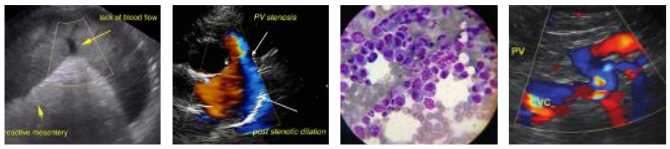
Free Abdomen

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

- Multiple heterogenous hypoechoic liver nodules/masses are concerning for infiltrative neoplasia. Round cell neoplasia, malignant neoplasia or even primary hepatocellular carcinoma vs other are all differentials. Having said that, benign nodular hyperplasia can have a variety of appearances and cannot be ruled out without tissue sampling.
- Hypo to anechoic splenic nodules – likely represent benign lesions such as a cysts, hematomas, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.
- Emerging mucocele – Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.
- Mildly thick descending colon could represent a benign or emerging potentially colitis, secondary to parasitic, infectious, dietary, infiltrative, inflammatory disease or even infiltrative neoplasia, although there are no criteria of malignancy to support neoplasia.
- Bilateral adrenomegaly- consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- Pancreatic nodular hyperplasia – Infiltrative neoplasia cannot be ruled out but is considered less likely.
- Age-related kidney changes with small bilateral cortical cysts.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS



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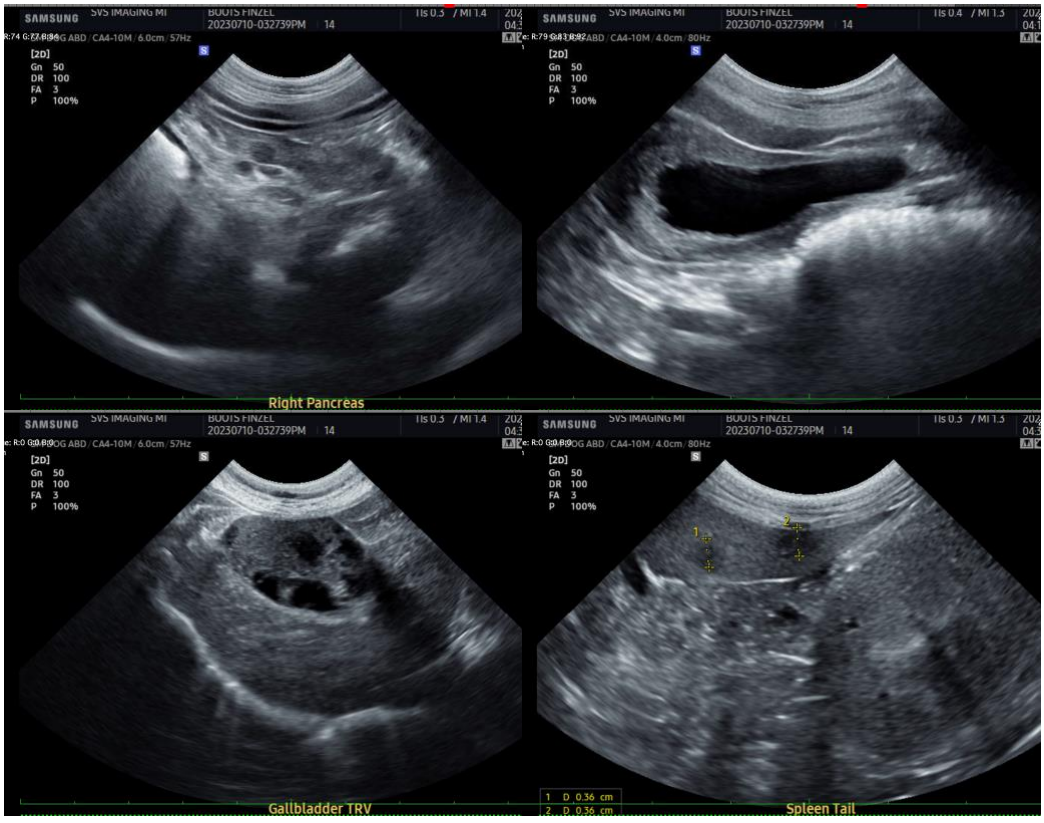
If not recently evaluated, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Fine needle aspirates of both liver nodules/masses are recommended if patients coagulation status is appropriate. Additionally, a fine needle aspirate of the splenic nodules could be considered.

Additional recommendations for the pathology described is primarily based on clinical signs. For example, further evaluation of hyperadrenocorticism could be considered given the changes described above but is not recommended unless clinical signs of hyperadrenocorticism are present. Similarly, further evaluation of the thick colon wall could be considered beginning with a fecal exam if not recently evaluated, progressing all the way up to colonoscopy for biopsies and should be considered if patients is exhibiting clinical signs, however, may be appropriately monitored in a well dog.

There is not an intraabdominal ultrasonographically obvious explanation for the reported anemia, but potentially, the anemia is related to the reported oral bleeding.



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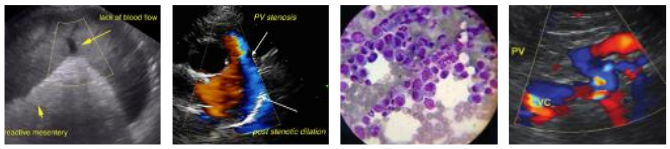

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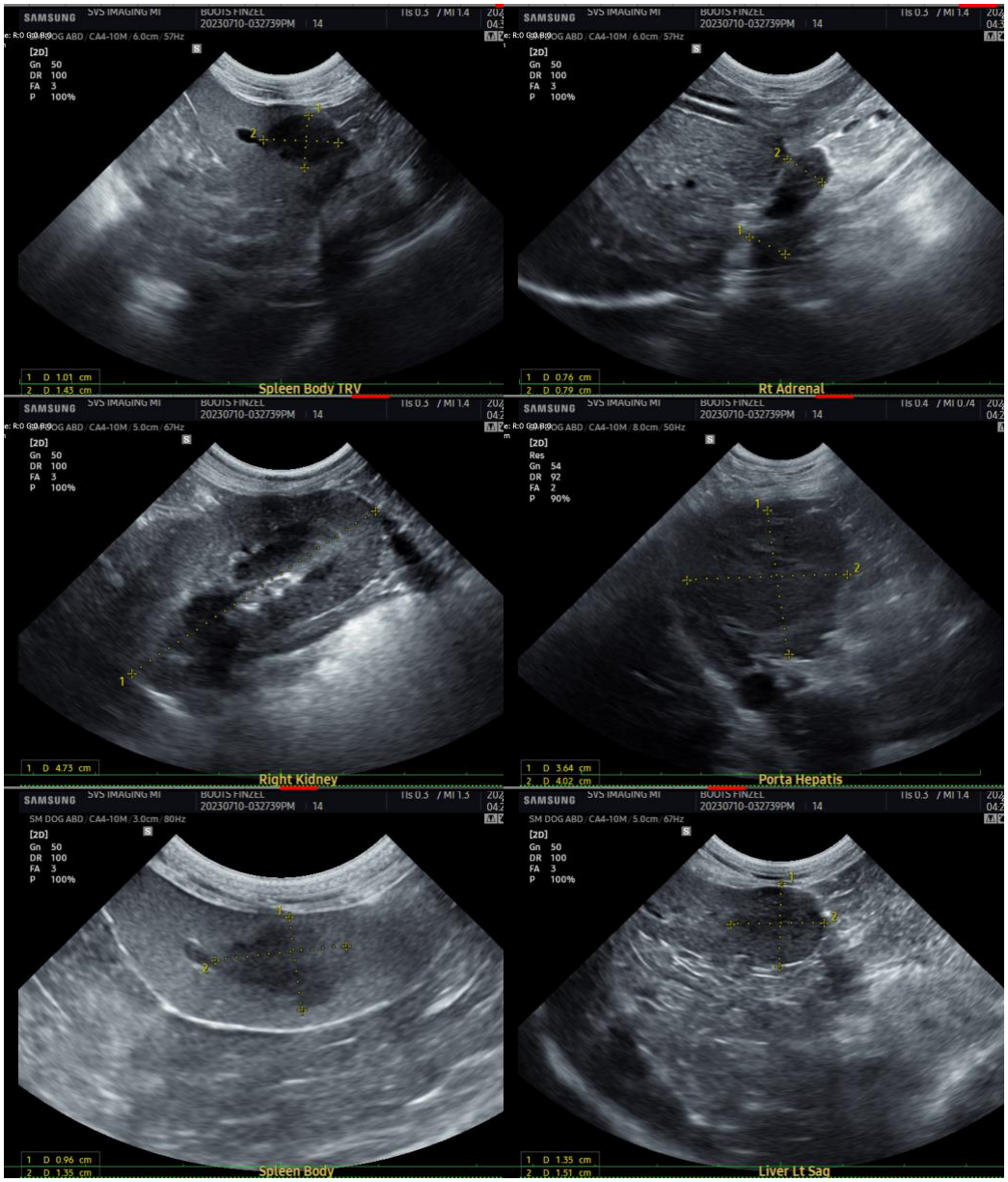

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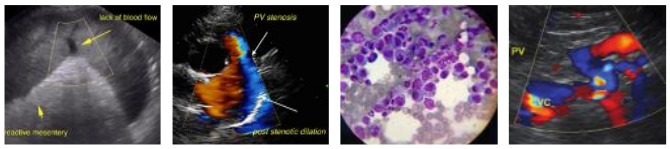

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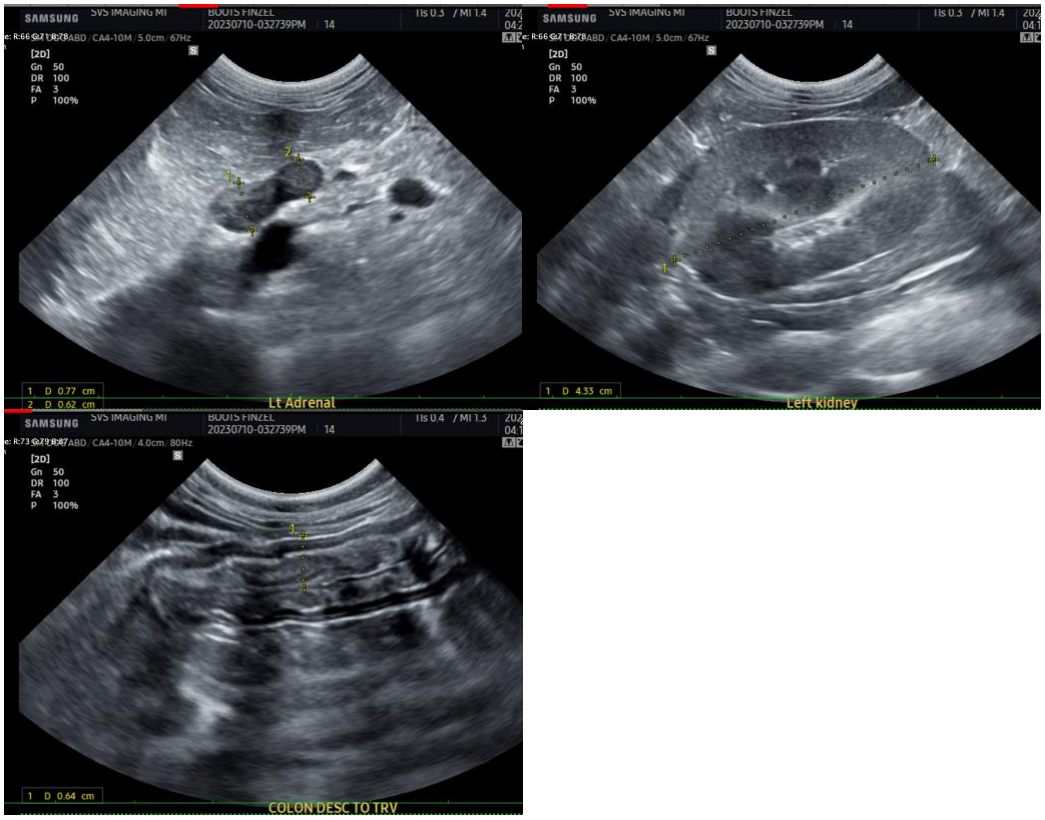

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM DACVIM

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