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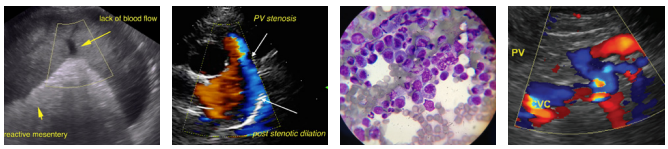


**PATIENT**

Rigby Souther

**SPECIES**

Canine

**BREED**

Springer Spaniel

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

58 Pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**

Dr. Ebersole

**HOSPITAL NAME**

Scanvet

**REFERRING VET**

Dr. Bennett

**INVOICE**

35717

**DATE**

2/17/22

## PRESENTING CLINICAL SIGNS

Panting, unable to settle well to sleep or rest, decreased appetite acutely, stable water intake, stable weight. Rads suspicious for splenic mass.
Abnormal PE/Chem/CBC/UA Results: 12/14/2021--normal LDDST 2/15/2022--ALP>2000, ALT 139, CPL abnormal. Rest WNL. RADS: Splenic "bulge" on lateral, hepatomegaly with caudal pyloric displacement, on VD intestines bunched to left and caudally, loss of organ detail. Chest films NSF.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

Urinary bladder is moderately distended. It has a normal uniform wall thickness (<0.2 cm). Contents include primarily anechoic fluid combined with both gravity dependent and suspended echogenic non-shadowing debris within the fluid. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (6.76 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (5.88 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

### *Adrenal Glands*

The right adrenal gland is normal in size (cranial pole measures 1.83 cm, caudal pole measures 0.70 cm), and subjectively flat in appearance. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is large in size (cranial pole measures 1.68 cm, caudal pole measures 0.96 cm), and slightly rounded in shape. There is no evidence of concerning capsular bulge. Parenchyma is mildly coarse without visible corticomedullary distinction. Visible surrounding vasculature appears normal. There is no evidence of vascular invasion in these images.

### *Spleen*

The 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). A 7.0 cm mixed hypoechoic, partially cavitated mass disrupting the capsule off of the head of the spleen. Splenic vasculature appears normal.

### *Liver*

Liver is subjectively enlarged with rounded margins. Parenchyma is diffusely heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. A 7-8 cm homogeneous, primarily hyperechoic mass is noted in the left liver with loss of normal curvilinear architecture. Visible vasculature appears normal.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

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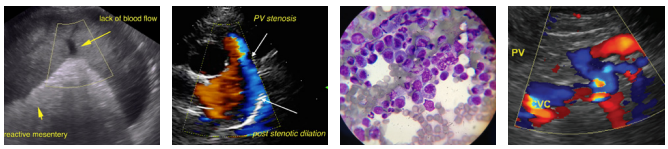


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### *Gastrointestinal*

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). 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 visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

### *Pancreas*

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. 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.

### *Other*

No evidence of pericardial effusion or heart base mass in these images.

## ULTRASONOGRAPHIC FINDINGS

- Mixed cavitated splenic mass – Most concerning for infiltrative neoplasia such as sarcoma (i.e., hemangiosarcoma). Benign splenic hematomas/extramedullary hematopoiesis can appear very aggressive and mimic malignant neoplasia. However, benign disease is considered much less likely, especially given the concurrent changes.

- Diffusely heterogenous liver with a discrete homogeneous, hyperechoic mass in the left liver – Differentials for hepatic changes include both benign steroid (vacuolar) hepatopathy or extramedullary hematopoiesis as well as infiltrative round cell or metastatic neoplasia. The mass is concerning for infiltrative neoplasia, either metastatic disease or primary just as primary hepatocellular carcinoma, given the loss of normal architecture within the mass.

- Enlarged, rounded left adrenal gland with a concurrently subjectively flat right adrenal gland – Concerning for primary adrenal cortical tumor with both benign adenoma versus adenocarcinomas being differentials. However, given the reportedly normal low-dose Dexamethasone suppression test, a pheochromocytoma is also possible.

- Urinary bladder sediment – Urine changes are most consistent with cellular debris or crystalluria.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommendations for this patient include a fine needle aspirate of the liver mass +/- splenic mass, being aware of the risk of hemorrhage when aspirating the cavitated splenic mass, both if patient's coagulation status is appropriate. 3-view thoracic radiographs are recommended to further assess metastatic disease if not recently evaluated.

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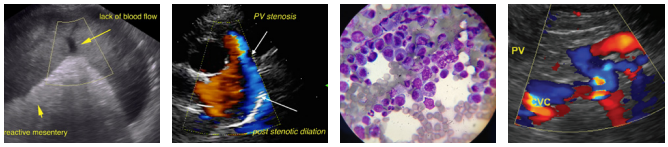


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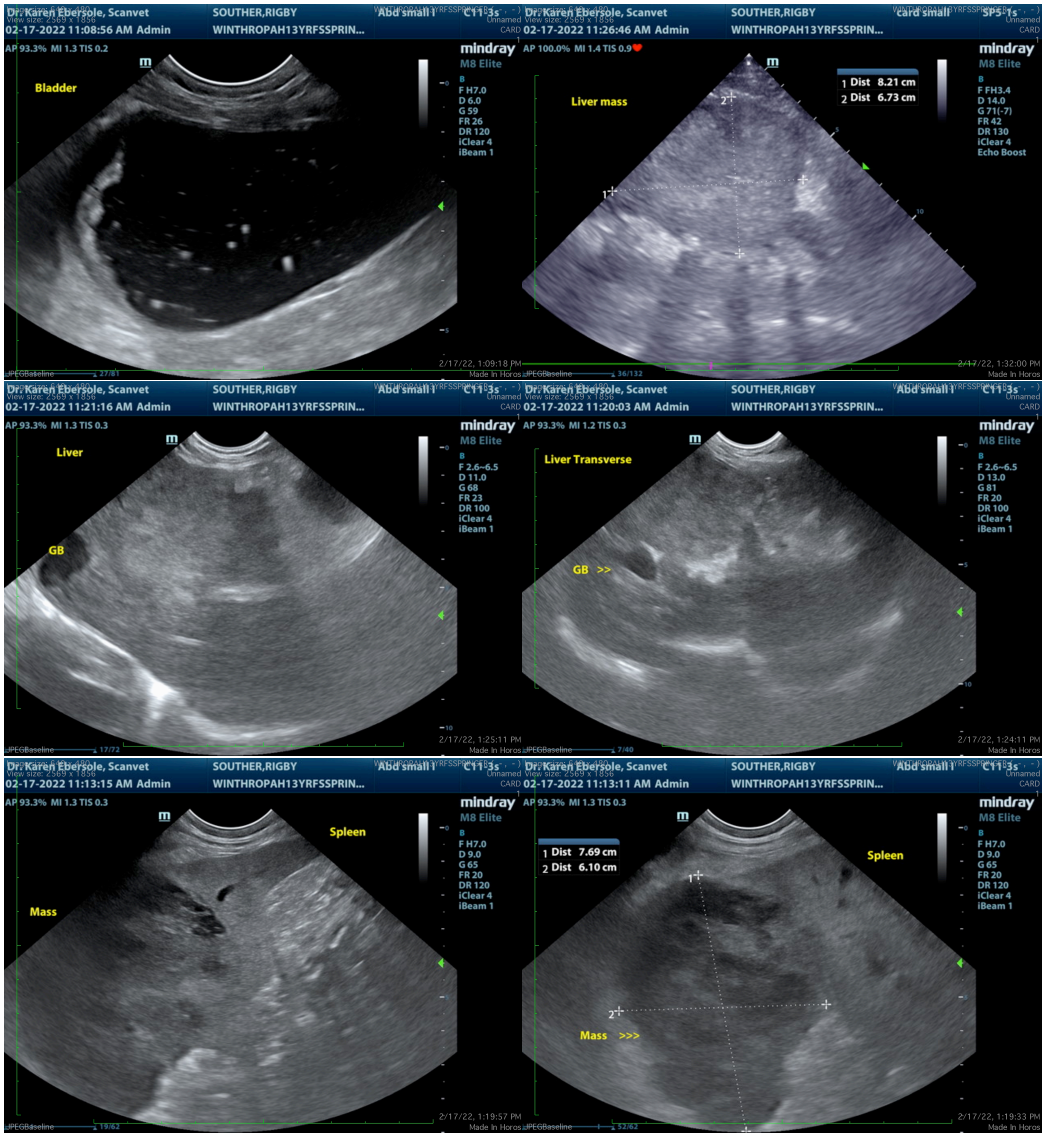
Given the suspicion for an adrenal cortical tumor, either benign or malignant, the secondary of a false negative low-dose Dexamethasone suppression test exists, and the test could be repeated, or this could be atypical hyperadrenocorticism, and a full adrenal panel to the University of Tennessee endocrinology lab could be considered. Other options include that the left adrenal mass is a pheochromocytoma and/or less likely but possible metastatic. If not recently evaluated, a urinalysis and urine culture (if indicated based on urinalysis results) are also recommended. A blood pressure is recommended as well.



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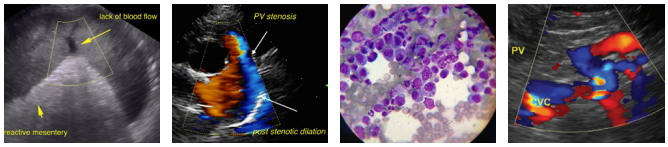


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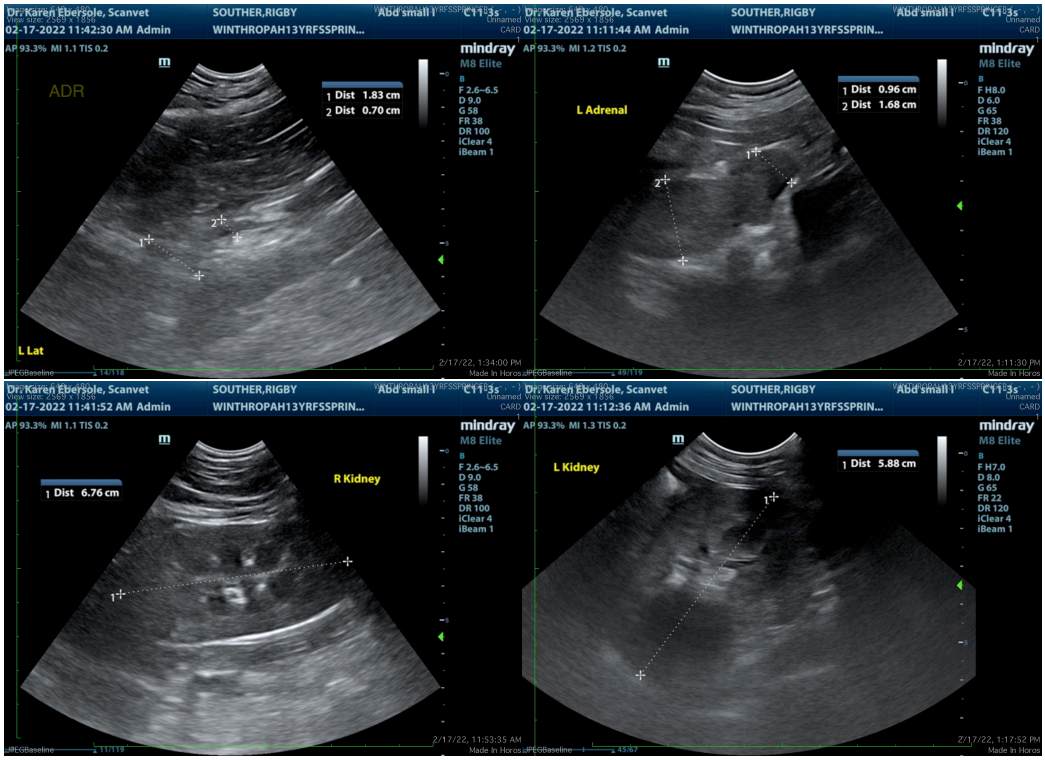


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**Beth Johnson**, DVM, DACVIM
Beth.Johnson@sonopath.com