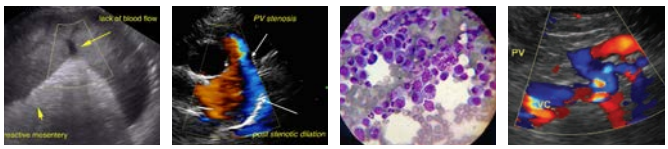
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Beatrice Branch

SPECIES
Canine

BREED
Pomeranian

SEX
Spayed Female

AGE
12 Years

WEIGHT
9.8 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Jessica Miller

HOSPITAL NAME
Mt. Olive VH

REFERRING VET
Dr. Jones

INVOICE
40759

DATE
8/25/22

PRESENTING CLINICAL SIGNS

ADR, lethargic, PU/PD, decreased appetite, elevated liver values. Current meds: 20mg baytril SQ on 8/23

Abnormal PE/Chem/CBC/UA Results: AST 233, ALT 375, ALP 1314, GGT 43, T Bili 2.1, Glucose 30, PSL 271, Neut 13090, T4 0.6 UA SG: 1.004

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately distended with primarily anechoic contents and some echogenic suspended debris. There is a solitary heterogeneous, hyperechoic mass lesion on the dorsal wall. The base of the mass measures 1.78 cm long x 0.70 cm extending into the lumen. No cystoliths are observed.

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, or infarcts observed. The left kidney measures 4.04 cm. The right kidney measures 4.21 cm. Non-obstructive areas of mineralization/nephroliths are noted in the right kidney.

Adrenal Glands

The right adrenal gland is normal in size (1.7 cm long x 1.0 cm at the cranial pole and 0.46 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

In the area of the left adrenal gland, there is a large approximately 6.0 cm x 9.0 cm, markedly amorphous, heterogeneous, partially cavitated mass noted that does appear to have vascular invasion.

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). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

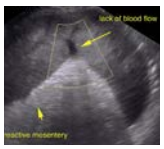
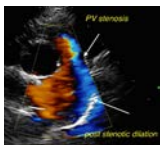
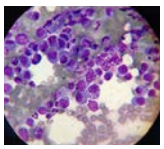
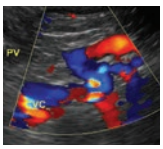
The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. Several approximately 1.0 cm sized, discrete hypoechoic nodules are noted throughout the parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

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.

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

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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 anechoic free fluid and markedly enhanced, clumped, hyperechoic mesentery surrounding the left adrenal mass.

Medial iliac lymph nodes are prominent.

PRIMARY FINDINGS

- **Large, visibly aggressive, inflamed left adrenal mass** – most concerning for infiltrative malignant neoplasia such as an adenocarcinoma versus other.
- **Urinary bladder wall changes** – concerning for infiltrative neoplasia as well, such as transitional carcinoma versus other. A benign inflammatory cystitis or polypoid cystitis cannot be ruled out without gene mutation markers or tissue sampling (see recommendations).
- **Liver nodule –** Differentials for discrete liver nodules include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, etc.; however, while considered less likely, primary hepatic neoplasia, infiltrative round cell neoplasia and metastatic disease can mimic benign lesions and cannot be definitively ruled out.
- **Medial iliac lymphadenopathy –** Differentials include both reactive lymphadenopathy as well as infiltrative or metastatic neoplasia.

SECONDARY FINDINGS

- Non-obstructive nephrolithiasis in the right kidney

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The left adrenal mass appears to be the primary pathology in this patient. However, given the concurrent urinary bladder and liver changes, staging may be elected prior to pursuing definitive treatment in the form of surgery of the left adrenal mass. Therefore:

Urinalysis and urine culture, if indicated based on urinalysis results, are recommended. Submission of urine to look for BRAF gene mutation, which is associated with urinary bladder cancer, could be considered. Other diagnostic options include traumatic catheterization, fine needle aspirate (with small risk of tumor seeding/trailing) or cystoscopy for further sampling.

A fine needle aspirate of the liver could be considered if patient's coagulation status is appropriate.

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.

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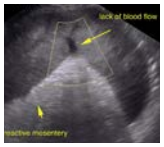
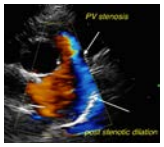
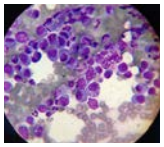
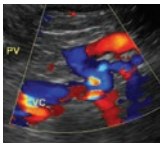

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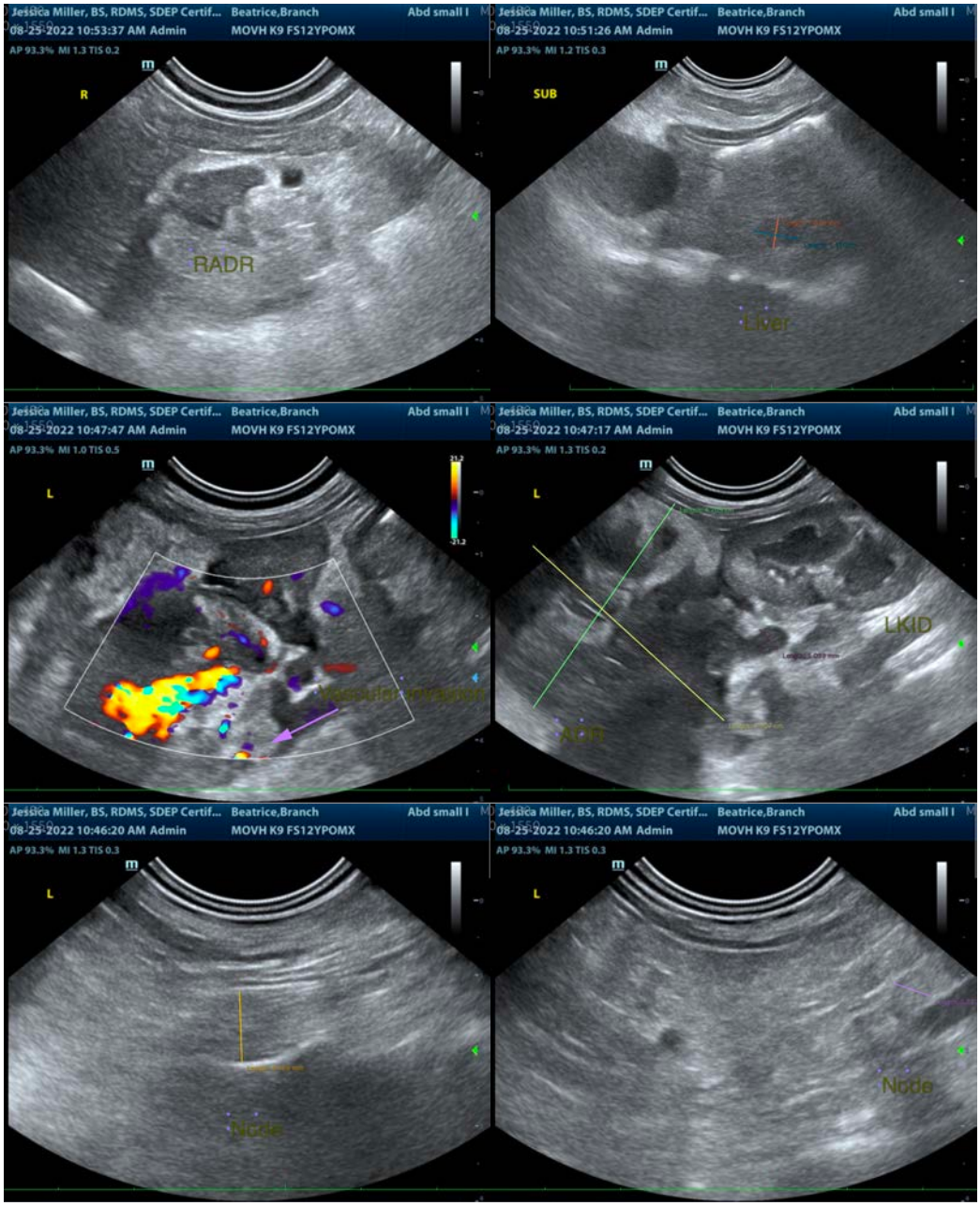
Adrenal hormone testing could be considered to gather more information regarding the left adrenal gland. However, given the appearance and invasive nature of it, an adrenalectomy is recommended regardless. If surgery is elected, pre-surgical planning abdominal CT scan is recommended.



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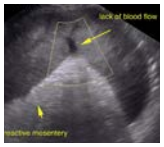
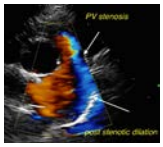
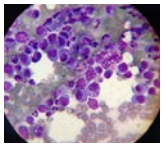
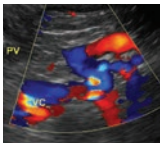

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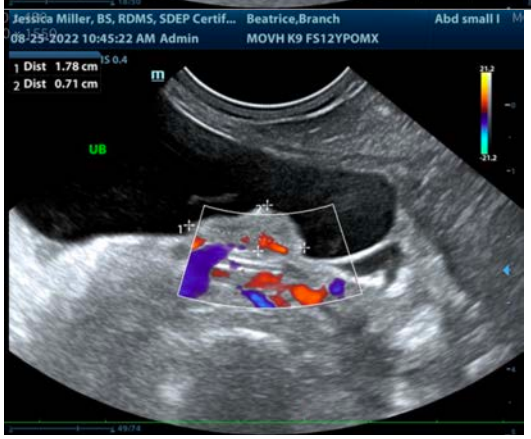

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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