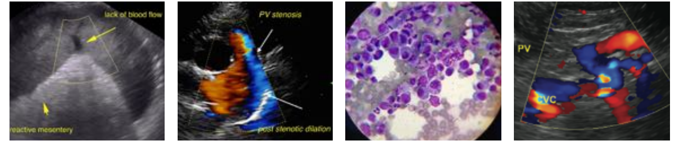


SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT
Jax Pond

SPECIES
Canine

BREED
Bulldog Mix

SEX
Neutered male

AGE
9 years

WEIGHT
104 lbs

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Dr. Gallick

HOSPITAL NAME
Magnolia Springs VC

REFERRING VET
Dr. Gallick

INVOICE
42396

DATE
12/28/22

PRESENTING CLINICAL SIGNS

History: Leukocytosis with a neutrophilia. Hyperphosphatemia, elevated ALT, ALP and GGT are elevated as well. Rec an abdominal ultrasound to further eval but his liver values have been elevated a while and this could be d/t Cushing's disease. Also his pancreatic levels are elevated. See attached lab work
Urine specific gravity 1.009, 2+ proteinuria, pyuria, white cells 20-30

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed diffuse, hyperechogenicity in both renal cortices with a hyperechoic medullary rim sign. The kidneys revealed generalized enlargement. Trace pyelectasia was noted in the both kidneys. The right kidney measured 8.2 cm. The left kidney measured 8.0 cm.

Adrenal Glands

The right **adrenal gland** was enlarged, hypoechoic and swollen, yet encapsulated and measured 1.5 cm at the cranial pole and 1.3 cm at the caudal pole. The left adrenal gland was visualized obliquely and was enlarged. Maximum width of the left adrenal gland was approximately 1.3 cm.

Spleen

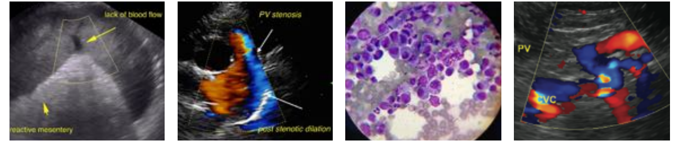
The **spleen** was mildly enlarged with slight scalloping contour and minor heterogenous parenchymal changes with hyperechoic hemosiderin deposits.

Liver

The **liver** revealed moderate hepatomegaly noted with diffuse, hyperechoic, parenchymal changes and multi-focal, hypoechoic nodules. The hepatic veins appeared to be dilated. This is consistent with passive congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident.

Gastrointestinal

The **gastrointestinal** presentation revealed mild uniform prominence of the gastric mucosa as well as areas of "ropey" small intestinal wall with slight disruption of the normal 1:3 muscularis/mucosal ratio. Mucosal fogging was noted throughout portions of the small intestine. The intestinal submucosa was slightly irregular, thickened and hyperechoic suggestive of low grade, chronic disease. No concerning lymphadenopathy was visible. Enhanced mesentery was noted associated with the GI tract.



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Pancreas

The **pancreas** revealed heterogenous changes with enhanced mesentery.

Free Abdomen

A minor amount of ascites was present. No overt masses were noted. A large amount of abdominal fat was noted in this patient.

ULTRASONOGRAPHIC FINDINGS

Passive congestion liver pattern. Hepatic lipidosis/vacuolar hepatopathy, nodular hyperplasia pattern.

Diffuse intestinal thickening.

Heterogenous pancreas. Enteritis and pancreatitis is likely.

Non-specific degenerative renal changes.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assessment for thoracic causes such as right heart disease or pericardial effusion or obstructive thoracic disease should be considered. Thoracic work-up with chest radiographs and echocardiogram is indicated to assess for causes of passive congestion causing a trace amount of ascites. There is concern for pituitary dependent Cushing's disease. FNA of the liver and spleen could be justified. Treatment for nephritis, urine culture and sensitivity given the pyuria and treatment for UTI is indicated. The prognosis is guarded. Eventual work-up for pituitary dependent hyperadrenocorticism is indicated if not already performed.

Efficient & Accurate Cushing's Work up-Lindquist

Notes regarding Cushing's Clinical Presentations:

Nearly all Cushing's dogs have SAP elevations and true PU/PD (USG < 1.025) and most are polyphagic.
Cushing's dogs are > 6 years and usually > 9 years old, usually have poor skin coats, body scores > 3/5, and are usually sedentary animals.
Its important to remember that Cushing's dogs usually look and play the part and other diseases cause false + stress related cortisol spikes. On rare occasion a Cushing's dog will not follow the rules but this is truly an exception.
Potential Cushing's patient workups can be costly and frustrating if not definitive and, in my experience, the non-definitive patient usually has something else going on that may be contributing to some of the clinical signs a Cushing's dog will have, especially SAP elevations or PU/PD. Based on this prelude of information I came up with the following algorithm in the spirit of diagnostic efficiency. The following suggested protocol is based on current available literature on Cushing's disease and extensive clinical-sonographic experience evaluation + Cushing's and False + LDDST & ACTH stim. cases in order to maximize the efficiency of a Cushing's workup in practice.

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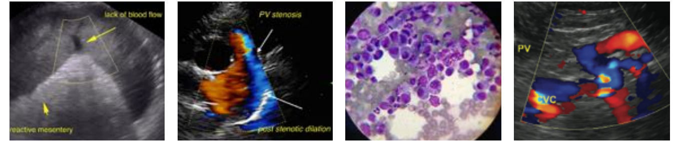

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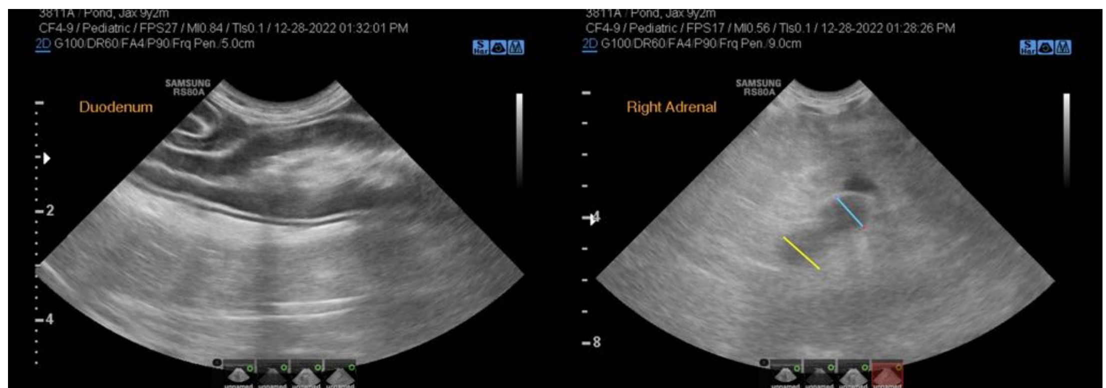

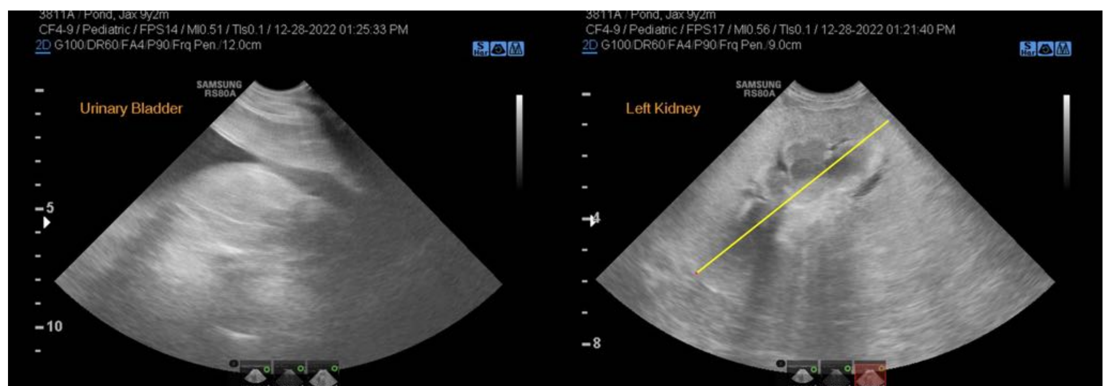

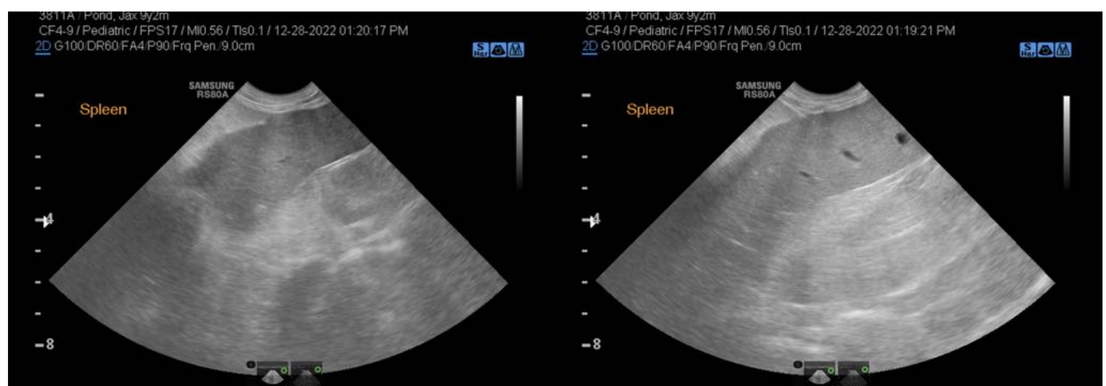

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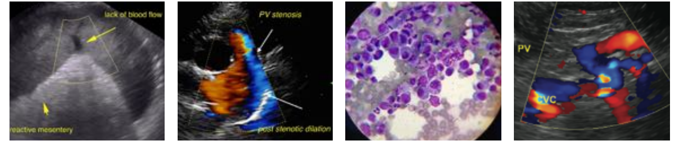

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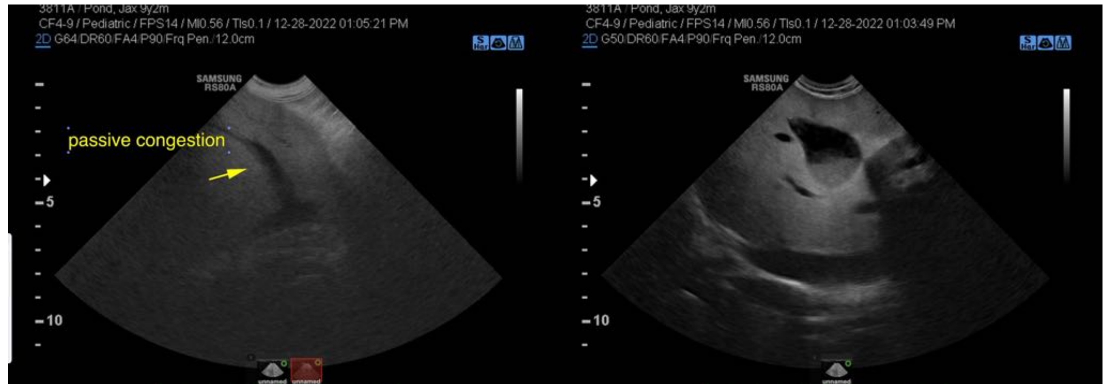

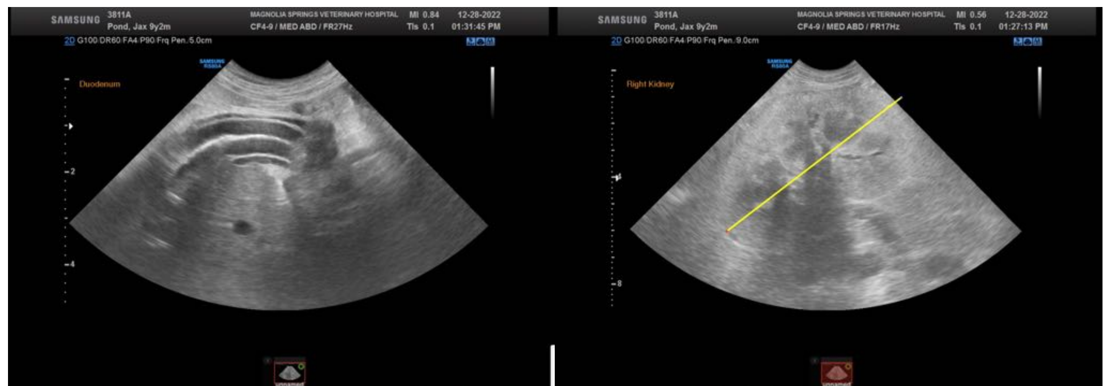

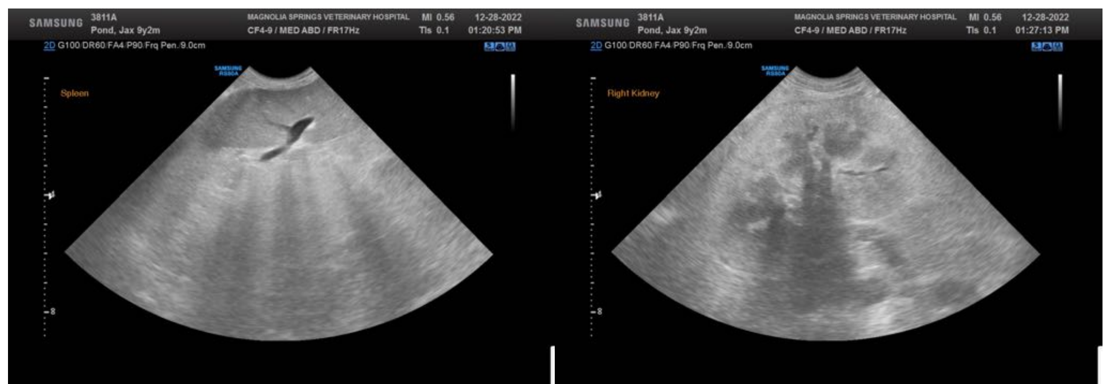

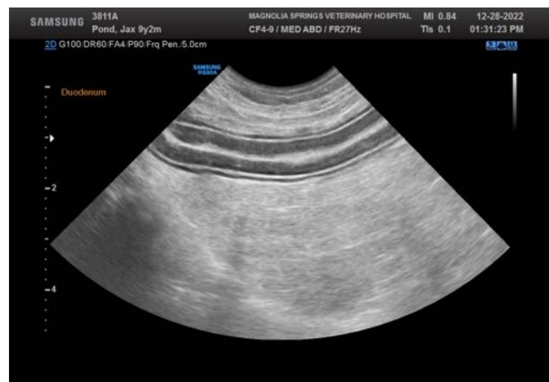

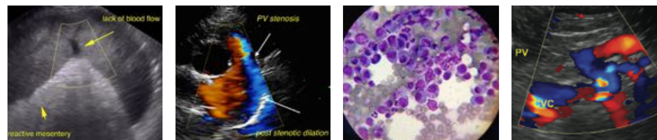

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com