SonoPath
Clinical Sonography & Telecytology
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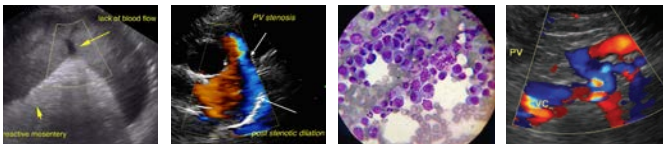


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Max Wheaton

SPECIES
Canine

BREED
Mixed

SEX
Neutered Male

AGE
12 Years

WEIGHT
8 Pounds

INTERPRETED BY
Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY
Dr. Tam Mengine

HOSPITAL NAME
Stoney Creek VH

REFERRING VET
Dr. Tam Mengine

INVOICE
33321

DATE
12/7/21

PRESENTING CLINICAL SIGNS

Seen at rDVM for sudden onset of PU/PD in early Nov, hematuria on U/A, treated with amoxicillin and signs resolved. Went to rDVM for recheck U/A in mid-Nov and was noted to have abdominal pain and splinting. Recheck U/A showed cocci and patient was switched to cefpodoxime. CBC/Chem / CPL were unremarkable other than mild elevation in BUN / SDMA with creat of 1.2 (attributed to diuretics patient takes for controlled CHF). On exam today patient splints on palpation of caudal abdomen, and was extremely resentful of efforts to image either adrenal.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is normal in size (0.73 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi. Note: The prostate was somewhat poorly visualized due to shadowing at the pelvic inlet.

The left kidney has a normal shape and size (3.89 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (3.96 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 1.08 cm at the caudal pole, 0.4 cm at the cranial pole, and 1.5 cm in length. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance in that the caudal pole appears large and hypoechoic. No distinct evidence of vascular invasion is visualized.

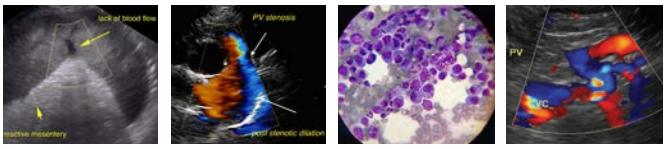
The right adrenal gland is large in size measuring 1.33 cm x 1.29 cm. The cranial pole is not clearly visualized. It appears to be in a relatively appropriate position between the cranial aspect of the right kidney and the caudal vena cava. It is abnormal in appearance, in that it is hypoechoic and somewhat irregular in shape. There is no obvious evidence of vascular involvement.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.



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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measured 0.38 cm. Jejunum wall measured 0.25 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed, but there is moderate mucosal speckling of the duodenum.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering. Wall measures 0.23 cm in width.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

PRIMARY FINDINGS

- Suspect bilateral adrenomegaly – The adrenal glands are bilaterally enlarged. Pain is reported on scanning this area. This could be consistent with PDH, but would be an atypical presentation, and could be consistent with bilateral adrenal tumors, or with metastatic disease to the adrenal glands.

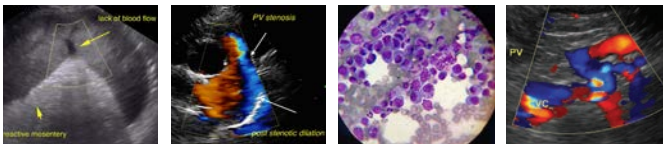
SECONDARY FINDINGS

- Mucosal speckling of the duodenum – Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no obvious lesion responsible for the hematuria reported. Recommend urinalysis and culture. If there is no infection evident, this could still be related to prostatic disease, as the entire prostate was not able to be visualized. Correlate with rectal exam, but the visualized portion of prostate appears relatively normal.

Both adrenal glands appear enlarged. I cannot rule out the possibility of a mass effect in the area, particularly on the right side, but it does appear in a very typical location for the right adrenal gland. It is not typical for hyperplastic adrenals to be painful, so I am questioning if there is some other cause for



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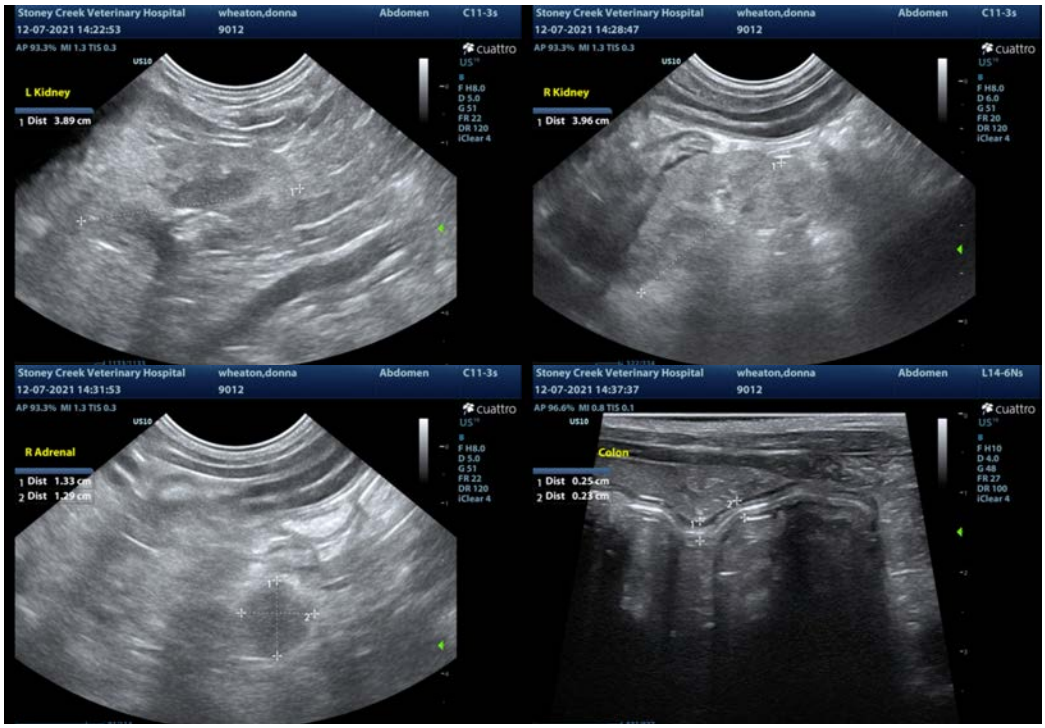
abdominal pain (back pain, pancreatitis not evident on ultrasound, etc.), or if these are not hyperplastic and there is something more concerning going on:

- Recommend blood pressure evaluation. If blood pressure is elevated, consider measuring catecholamine levels.
- Recommend 3-view thoracic radiographs to look for concurrent intrathoracic disease or evidence of metastasis.
- Ideally, a contrast CT scan would be done to better evaluate the entire abdomen and to look at vasculature associated with the adrenal glands, etc.
- You could consider a fine needle aspirate of the adrenals. This has been reported to be relatively safe in most instances.
- If a different cause for the abdominal pain can be identified, then consider adrenal function testing for the bilateral adrenomegaly.
- If bilateral adrenal tumors are strongly suspected, then bilateral adrenalectomy is a possibility, but this would only be recommended with advanced imaging to support the diagnosis and referral to a specialty facility/teaching hospital for intensive post-op monitoring and surgical care.

A more simple explanation could be pyelonephritis with pituitary dependent hyperadrenocorticism, although no pyelectasia was noted.



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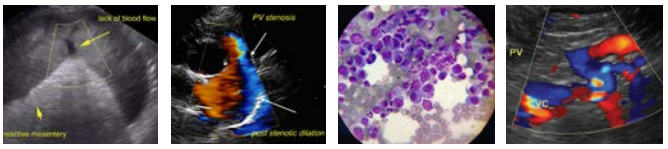

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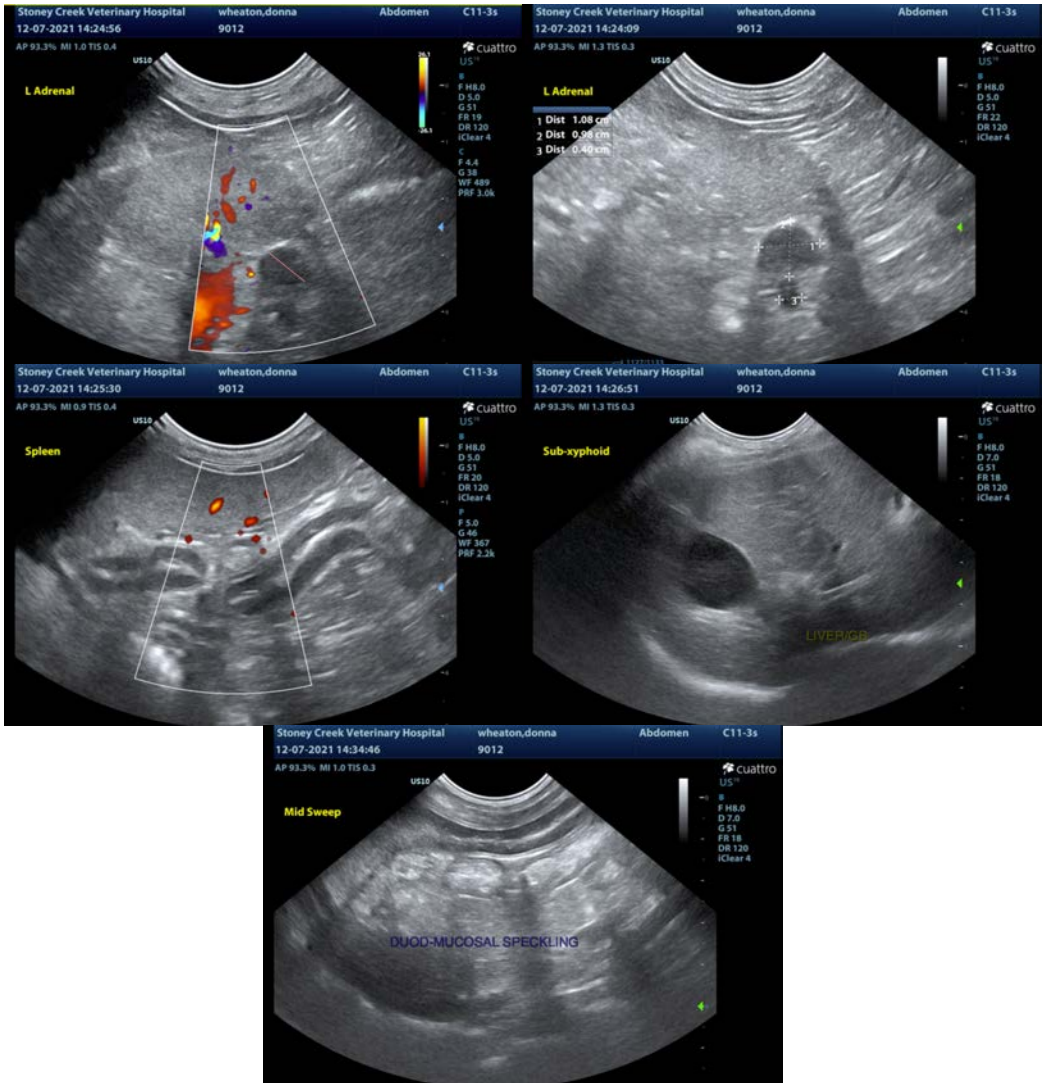

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
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