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Clinical Sonography & Telecytology
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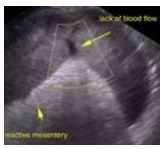
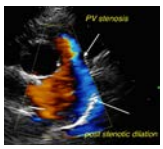
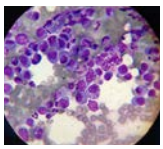
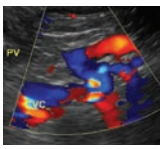





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Fetish Boisvert

SPECIES

Canine

BREED

Border Collie

SEX

Spayed Female

AGE

12 Years

WEIGHT

13.3 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Nigel Gumley

HOSPITAL NAME

Cedarview AH

REFERRING VET

Dr. Nigel Gumley

INVOICE

46684

DATE

4/13/23

PRESENTING CLINICAL SIGNS

Appetite on and off. Recurrent UTIs. Elevated urea, ALP and cholesterol on BW, improved now. Vomited once, decreased energy. Chronic Anaplasma positive on 4DX but not clinical. Not obviously PU/PD

Abnormal PE/Chem/CBC/UA Results: Follicular vaginitis, suspect urethral incompetence. Chest radiographs normal. Urine sp gr = 1.025, E. coli cultured and persistent after treatment with clavamox 1 week after despite susceptible. Otherwise normal on exam.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with mild primarily suspended echogenic debris present. 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 calculi. Echogenic debris of this type can be associated with small crystals, cellular debris and proteinaceous debris.

The left kidney has a normal shape and size (4.85 cm) with mild pyelectasia at 0.32 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.5 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 slightly irregular in appearance, measuring 0.42 cm at the cranial pole, 0.68 cm at the caudal pole, and 1.85 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat atypical in that there is a hyperechoic region visualized near the caudal pole that does not deviate the shape of the adrenal. This region measures 0.53 cm x 0.56 cm. There is no evidence of vascular invasion visualized.

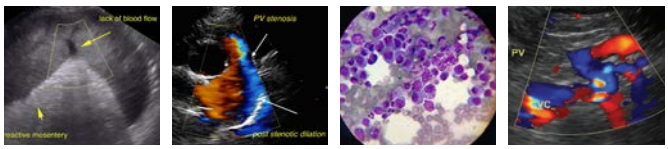
The right adrenal gland is irregular, measuring 1.02 cm at the cranial pole, 0.45 cm at the caudal pole, and 2.32 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is somewhat abnormal in appearance in that the cranial pole is hyperechoic, creating the impression of a hyperechoic nodule on the cranial pole measuring 1.02 cm x 1.92 cm. No evidence of vascular invasion is visualized.

Spleen

The spleen is subjectively normal in size. The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a hypoechoic lesion within the parenchyma measuring 0.34 cm and numerous ill-defined nodules.

Liver

The liver is subjectively normal in size, and hyperechoic with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. 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 mild and 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 measures 0.44 cm. Jejunum wall measures 0.29 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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. Colon wall measures 0.18 cm.

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 left medial iliac measures 0.40 cm and the right at 0.34 cm. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Echogenic debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.
- Irregular area near the caudal pole of the left adrenal gland – The significance of this is unclear but trends towards a benign etiology, as this lesion does not deform the shape of the adrenal at all. Most likely differential is hyperplasia, although continued monitoring is warranted.
- Decreased corticomedullary distinction in both kidneys with mild left-sided pyelectasia
- Mottled spleen – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Heterogeneous, hyperechoic liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Hyperechoic nodule in the cranial pole of the right adrenal gland – The significance of this is unclear. This could represent a benign lesion or an early neoplastic lesion.

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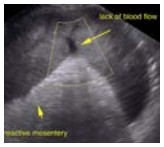
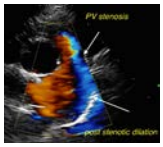
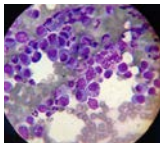
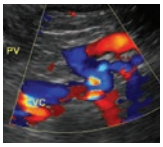

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

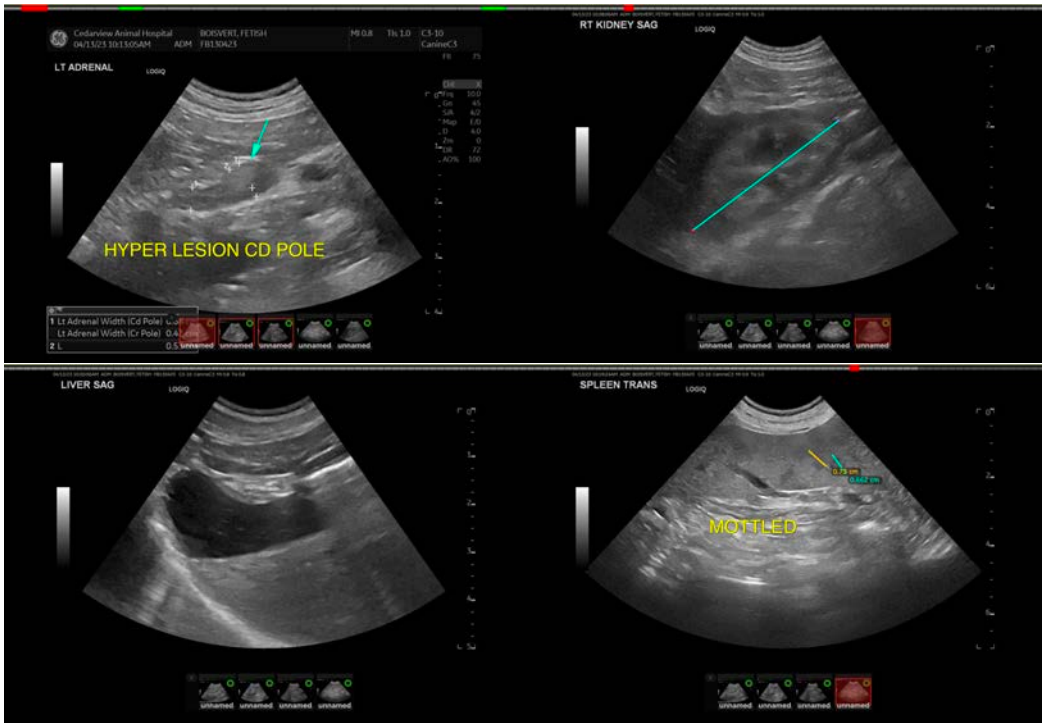
The bladder contains some echogenic debris most consistent with the urinary tract infections reported. No focal anatomic abnormalities are visualized to explain these. You could consider cystoscopy to further evaluate for ectopic ureters, diverticula, additionally changes associated with the vaginal vestibule, etc.

Additionally, there is a hyperechoic nodule associated with the right adrenal gland. The significance of this lesion is unclear. It could represent a benign lesion or an early neoplastic lesion, and it could be non-secretory or be secreting hormone. If Cushing's is suspected, this could be a potential source, and adrenal function testing could be considered, but use caution, as the chronic urinary tract infections and non-adrenal illness could predispose to false positives on testing. Additionally, you could consider a contrast CT scan to further evaluate the adrenal, particularly if surgical removal is desired. Alternately, you could consider monitoring with ultrasound (recheck in 8-12 weeks). Blood pressure evaluation is recommended. If blood pressure is elevated, recommend measuring catecholamine levels to evaluate for a pheochromocytoma.

There is decreased corticomedullary distinction in both kidneys with mild left-sided pyelectasia. Based on this finding, pyelonephritis is possible. Recommend continued treatment according to new sensitivity results. Additionally, consider cranberry supplementation and chronic probiotic therapy (administered at least two hours apart from antibiotics).

The significance of the mottled spleen is uncertain. This finding is subjective and relatively subtle. A fine needle aspirate could be considered.

The liver appears somewhat heterogeneous and hyperechoic. This could be associated with a benign vacuolar hepatopathy. Based on the elevation in ALP reported, further evaluation could entail a liver function test and a fine needle aspirate of the liver, particularly if round cell neoplasia is a concern.



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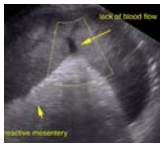
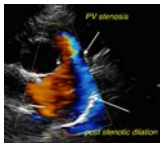
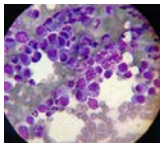
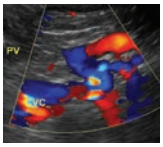

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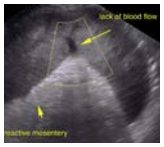
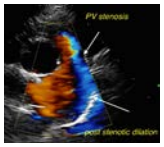
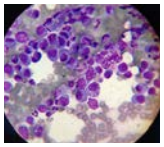
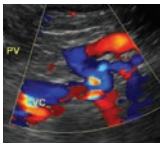

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com