



PATIENT PRESENTING CLINICAL SIGNS

Megan Brown History: Littermate recently died from "bleeding liver". Patient had new azotemia (BUN 42, Creat 1.9, SDMA 15, with isosthenuric urine & quiet urine sediment), and liver enzyme elevations ALT 270, ALP 667), as well as slightly elevated total Ca⁺⁺ (11.9).

SPECIES

Canine

BREED

Border Collie

SEX

Spayed Female

AGE

12.8 years

WEIGHT

54 lbs

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine, and no luminal sediment is present. The ureteral papillae, trigone and pelvic urethra are of normal appearance, and the ureters are not visible (normal). No masses, calculi or mucosal irregularities are noted. Urethra visualized to 3.0 cm.

Both kidneys are hyperechoic and exhibit poor cortico-medullary differentiation with mild dilation of the right renal pelvis, and moderate dilation of the left renal pelvis (with anechoic contents). There is no evidence of nephrolithiasis, mineralization, pyelectasia or hydronephrosis. The proximal ureters are not visible (normal). The left kidney is 5.2 cm in length. The right kidney is 5.9 cm in length.

Adrenal Glands

Both adrenal glands are focally enlarged and hyperechoic. They have normal phrenic vasculature and are found in the normal location. The left adrenal gland height is 5.6 mm at the cranial pole and 1.1 cm at the caudal pole. The right adrenal gland height is 1.1 cm at the cranial pole and 7.0 mm at the caudal pole.

Spleen

There is a hyperechoic mass (<1.0 cm) within the splenic parenchyma, with no visible deviation of the splenic capsule. The splenic vasculature is normal with no evidence of congestion or thrombosis, and blood flow through the splenic hilus appears normal.

Liver

The liver is diffusely hyperechoic and subjectively enlarged. The portal and hepatic vasculature are of normal size and appearance with no evidence of congestion or thrombosis.

The gallbladder is moderately distended with anechoic contents. The gallbladder wall is focally thickened with small focal polypoid lesions, with no evidence of rupture. The cystic and common bile ducts are normal / not visible.

Gastrointestinal

The stomach is empty. The gastric wall is 4.8 mm with normal deviations due to rugal folds and exhibits appropriate wall layering. The pylorus is of normal appearance.

INTERPRETED BY

Tam Mengine, DVM,
DABVP (canine/feline
practice)

IMAGING PERFORMED BY

Dr. Tam Mengine

HOSPITAL NAME

Stoney Creek VH

REFERRING VET

Dr. Beth Henry

The visualized portions of the duodenum, jejunum, and ileum are of normal thickness with intact wall layering that exhibits the appropriate 1:3 muscularis to mucosa ratio. The duodenal wall measures 4.3 mm. The jejunal wall measures up to 2.8 mm. Intestinal motility appears normal.

The visible portions of the colon are of normal thickness, up to 1.9 mm, with intact wall layering. The ileocecal junction is visualized and appears normal.

Pancreas

The areas of the limbs and body of the pancreas are isoechoic to the surrounding mesenteric fat, with normal capsular appearance. There is no evidence of peripancreatic inflammation. The pancreatic duct appears normal.

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PATIENT *Free Abdomen*

Megan Brown There is no evidence of free fluid within the peritoneal cavity. The omentum and intra-abdominal fat are of appropriate echogenicity. Enlarged abdominal lymph nodes are not observed. The aortic trifurcation has normal blood flow with no evidence of thrombosis.

SPECIES **ULTRASONOGRAPHIC FINDINGS**

Canine **Primary Findings**

- Bilateral chronic renal changes with pyelectasia
- Bilateral adrenal enlargement, most typical of benign adenomas or hyperplasia

BREED

Border Collie

Secondary Findings

SEX

- Reactive hepatopathy
- Gallbladder polypoid hyperplasia, which is an incidental finding in older dogs

Spayed Female

AGE

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

12.8 years

The presence of pyelectasia raises the concern for pyelonephritis, though mild renal pelvic dilation can also be seen with recent fluid therapy or as a chronic degenerative change. Recommendations include:

WEIGHT

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- CBC, chemistry and urinalysis with culture
- Blood pressure measurement
- If pyelonephritis is suspected, then empiric antimicrobial therapy may be started while awaiting culture results. The International Society for Companion Animal Infectious Diseases (ISCAID) Working Group recommends fluoroquinolones or cefpodoxime as initial empiric treatment choices, with a total therapy duration of 10 - 14 days.
- Chronic cases of pyelonephritis may require longer courses of treatment than the recommended 10 -14 days. Historically, treatment for up to 4-6 weeks has been recommended, with follow up culture shortly after discontinuation of therapy.

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The changes in the adrenal glands are consistent with either pituitary-dependent hyperadrenocorticism, or benign hyperplasia.

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- If signs of Cushing's disease are present, then adrenal function testing (either a low-dose dex-suppression test or ACTH stimulation test) is recommended.
- Monitoring the nodules for changes in size or appearance, via serial ultrasounds at 6-8-week intervals

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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.

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