

PATIENT

Percy Berg

SPECIES

Canine

BREED

Chihuahua X

SEX

Neutered Male

AGE

9 Years

WEIGHT

10.88 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, RVT

HOSPITAL NAME

Marysville Veterinary

REFERRING VET

Dr. Grace Berg

INVOICE

26690

DATE

10/27/21

PRESENTING CLINICAL SIGNS

Chief Concern/Provisional Dx: Cholangiohepatitis, gall bladder History: Percy has icteric urine and is not eating well. Physical : Decreased BCS Senior Screen Summary on 10/22/21: Increased ALT : 1,235 U/L, AST: 305 U/L, ALP: 1,438 U/L, GGT: 32 U/L and Bilirubin (T: 2.4, Unconjugated: 1.1 mg/dl, Conjugated 1.3 mg/dl)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is minimally distended with anechoic urine. The Bladder wall appears slightly irregular and thickened, measuring 0.5 cm, but this is likely largely due to a lack of urine distention. The trigone and urethra (to a depth of 2cm) appear normal with no evidence of mass effect or calculi.

The prostate is normal in size (0.61 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.

The left kidney has a normal shape and size (3.66 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 (4.0 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 normal in size measuring 0.32 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.37 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

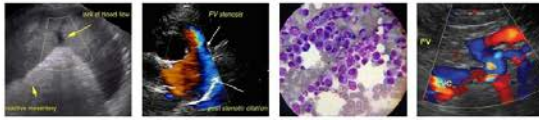
Spleen

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 hypoechoic 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.

The gall bladder lumen is moderately distended. The wall of the gall bladder is prominent. There is a moderate amount of non-organized echogenic debris. The common bile duct measured 0.25 cm.



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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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.)

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.

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.

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PRIMARY FINDINGS

- Heterogeneous, hypoechoic 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. The hypoechoic appearance of the liver favors an inflammatory or infiltrative process.

SECONDARY FINDINGS

- Moderate gallbladder sludge with prominent gallbladder wall – There is no inflammation surrounding the gallbladder, and the gallbladder is not overly distended. These findings could be consistent with cholangitis.
- Slightly thickened irregular urinary bladder wall – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

INVOICE

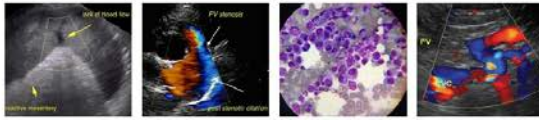
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The changes observed in the liver are relatively non-specific. No focal lesions were identified.

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc.
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history



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- If not already done, consider pre and post prandial bile acids to evaluate liver function. This is unlikely to be necessary considering the currently elevated bilirubin levels.
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with cushings are present, consider adrenal function testing (ACTH stim)

SPECIES

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- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)
- If no response to supportive care (denamarin, fluids, antibiotics, +/- ursodiol etc...) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

BREED

Chihuahua X

The gallbladder wall appears somewhat prominent. Recommend continued monitoring with ultrasound, and if a surgery biopsy is considered, recommend a culture of the bile. Consider therapy with antibiotics, Ursodiol and Denamarin once a fine needle aspirate of the liver is obtained.

SEX

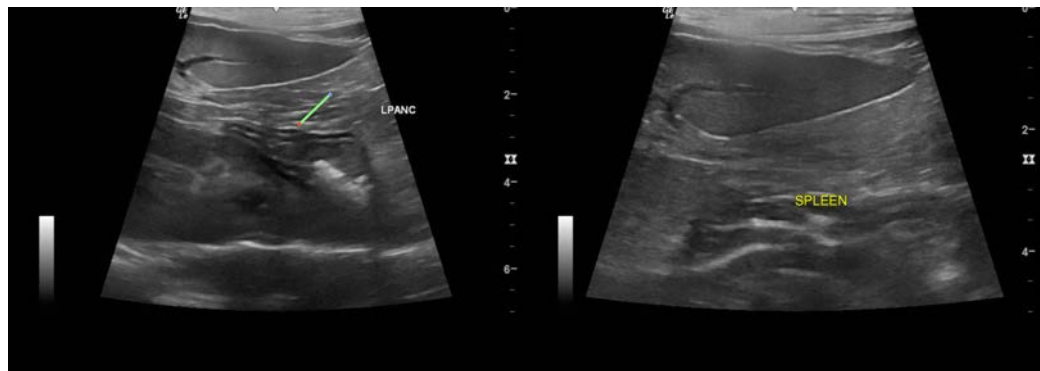
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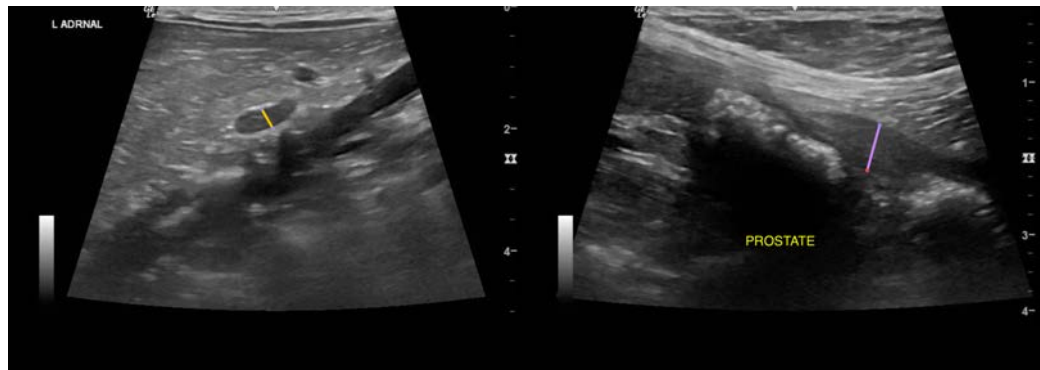


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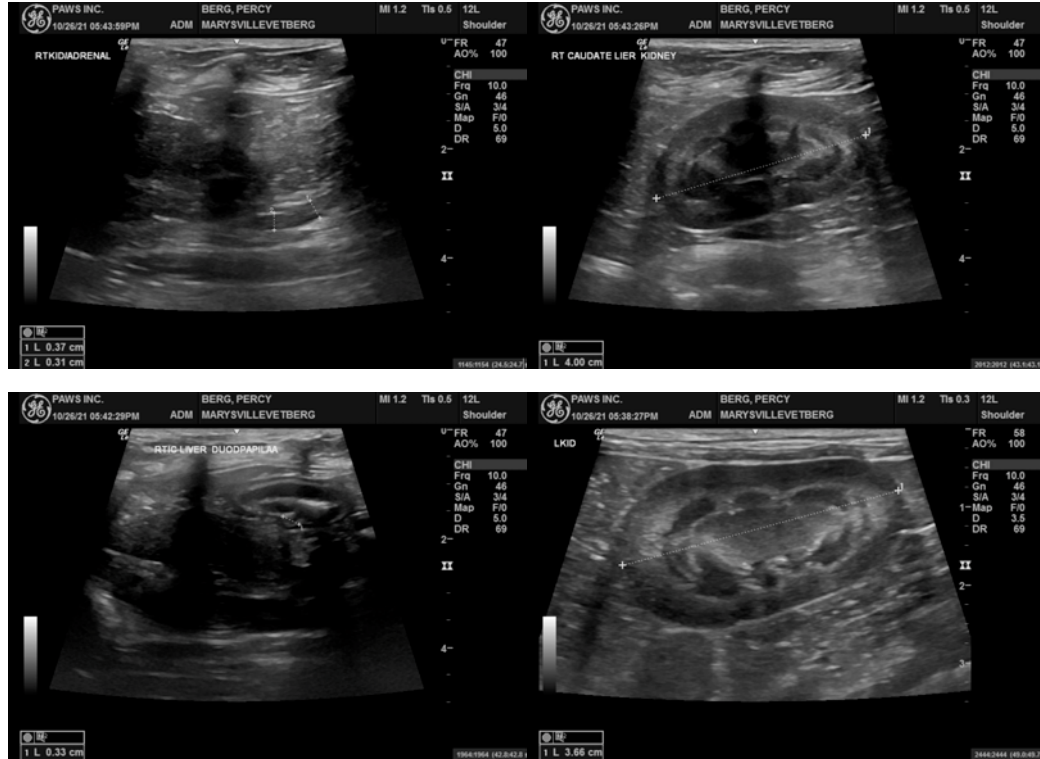
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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