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Clinical Sonography & Telecytology
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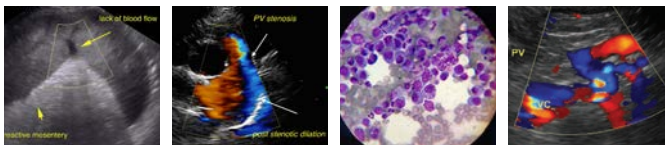

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Luna Lopez

SPECIES

Canine

BREED

Mixed

SEX

Female

AGE

13 Years

WEIGHT

12.5 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Ferrer

HOSPITAL NAME

Paseos Vet Center

REFERRING VET

Dr. Michelle Biello

INVOICE

43808

DATE

7/13/23

PRESENTING CLINICAL SIGNS

The patient was referred on 12/13/2022 for Echo. Patient has a history of chronic cough and had been receiving depomedrol monthly. On 6/22/2023 patient presented for trembling, one episode of urinary incontinence, and diarrhea with blood. Blood work was performed, and it was recommended to discontinue chronic steroid use, Patient was started on antiacid and gabapentin. Hepatic supplement recommended as well. Patient had been doing well but a few days ago patient developed diarrhea and anorexia. Hepatic values have markedly increased. Currently with azotemia as well.

Abnormal PE/Chem/CBC/UA Results: ECHO: Chronic degenerative valve disease causing mild mitral regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. No concurrent issues such as systolic dysfunction or pulmonary hypertension are noted in this study. In a dog with no significant left atrial enlargement, no cardiac medications are clearly indicated. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1). Blood Work 6/22 ALT >1,000, ALP 555, GGT 143 BUN 31, Creat 1.7, Na 3.3, Cl104, K3.3, Blood work 7/13 ALT Not measurable, ALKP 1,412, GGT 106, Tbil 1.7, BUN 82, Creat 2.7, Glucose 86, Na140. K 3.7, Cl104 Base cortisol 8

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall appears largely of normal thickness at 0.17 cm. The dependent portion of the urinary bladder is slightly thicker at 0.30 cm with some mild irregularity at the apical surface. The area of the 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 left kidney has a normal shape and size (4.22). Overall echogenicity is slightly hyperechoic with mildly reduced 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.

The right kidney has a normal shape and size (4.72 cm). Overall echogenicity is slightly hyperechoic with mildly reduced 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 normal in size measuring 0.55 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 0.44 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.

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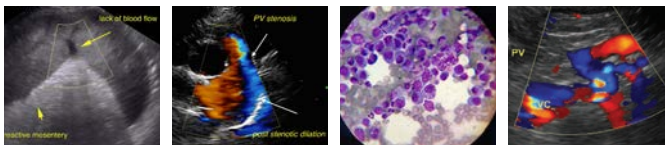

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Spleen

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.

The gallbladder lumen is significantly distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. 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. Jejunum wall measures 0.42 cm. Duodenum wall measures 0.27 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. The descending colon wall appears slightly prominent at 0.25 cm with non-formed intraluminal fecal material.

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.

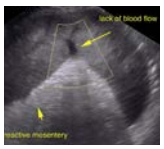
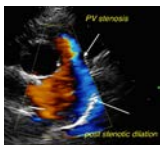
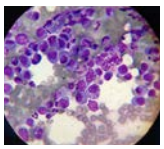
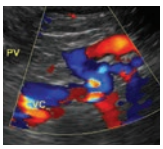
Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is no significant mesenteric lymphadenopathy noted. There is a slightly prominent mesenteric lymph node visualize at 0.59 cm.

The uterine body is visualized with no significant abnormalities noted.

ULTRASONOGRAPHIC FINDINGS

- Slightly irregular urinary bladder/thickened 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.
- Mildly reduced corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Slightly prominent wall of the descending colon – Findings could be consistent with mild colitis.

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- Prominent, distended gallbladder with moderate debris, no obvious bile duct dilation

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the liver. The gallbladder appears significantly distended with a moderate amount of intraluminal debris but no surrounding inflammation, and the bile duct does not appear visible. An obstructive process cannot be definitively ruled out, but there is no indication of one at this time. If the bilirubin continues to increase, recommend repeat imaging.

If there is no significant biliary disease present, then a primary hepatopathy would be suspected, although there are no focal lesions and no significant parenchymal changes noted. Consider the following:

- 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
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- 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.
- Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.
- Recommend empirical treatment for acute liver injury/cholecystitis/leptospirosis with Denamarin, fluids, antibiotics, probiotics, nausea medications etc.. if the liver values (particularly bilirubin) continue to rise recommend repeat imaging of the gall bladder as it does appear somewhat distended, and an obstructive process cannot be ruled out.

The urinary bladder appears very slightly irregular. Correlate with urinalysis +/- culture. Additionally, the kidneys have some age related change. A blood pressure, urinalysis and culture could serve as a baseline.

The descending colon wall appears slightly thickened and irregular. This is likely consistent with the recent colitis.

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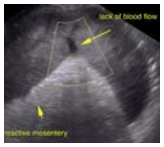
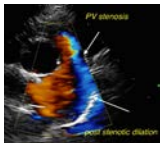
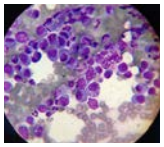
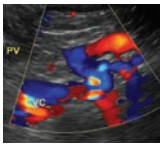

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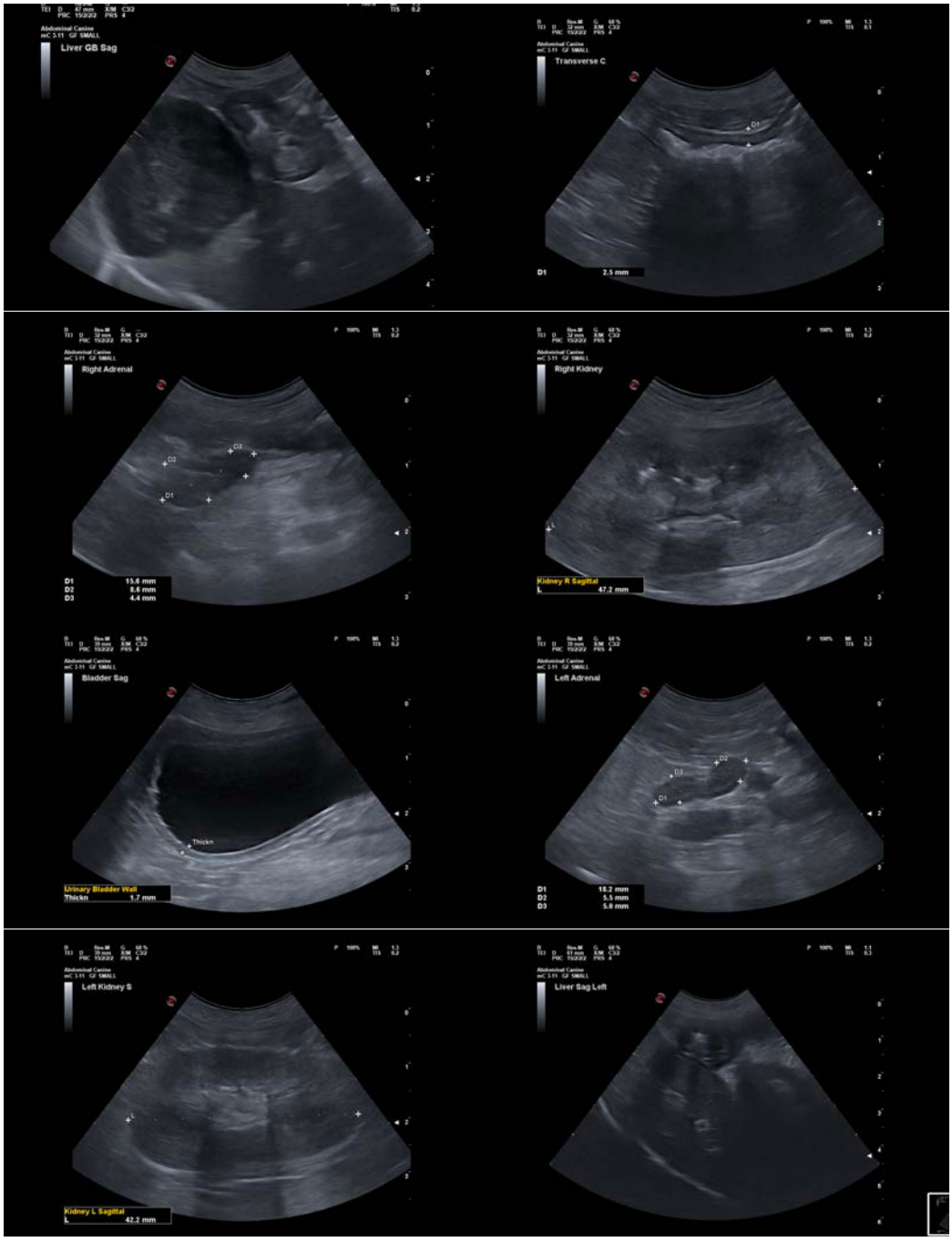

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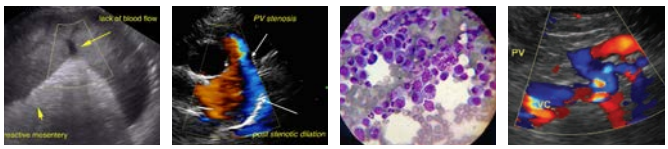

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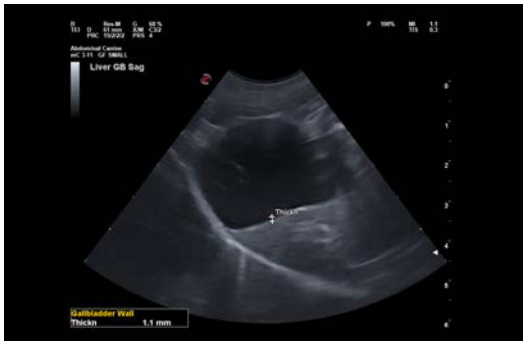

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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