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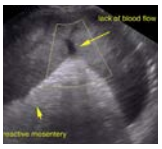
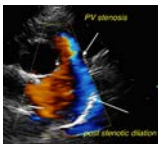
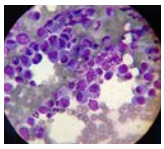
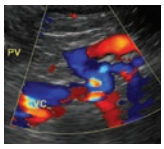

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1-800-838-4268 info@sonopath.com

PATIENT

Charlie Brown Cuminale

SPECIES

Canine

BREED

Chihuahua

SEX

Neutered Male

AGE

13 Years

WEIGHT

11.3 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Whippany VH

REFERRING VET

Dr. Smith

INVOICE

25396

DATE

9/14/21

PRESENTING CLINICAL SIGNS

Abdomen, Hematuria, difficulty defecating. X-rays chest WNL. R/o/s CRF, neoplasia, cystic calculi
Abnormal PE/Chem/CBC/UA Results: Tp 7.5, Glob 3.7 Alk Phos 199, BUN 160, Creat 1.6 UA: protein 2+ SG: 1.010 ms/dl

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is severely diffusely thickened (measuring 0.9 cm in thickness) and irregular with tissue mineralization. This abnormal tissue extends through the trigone into the proximal urethra and into the prostate. The prostate is large in size, measuring 2.7 cm x 2.4 cm. It is irregular and hyperechoic. The prostatic urethra is thickened and connects directly to abnormal thickened bladder mucosa.

The left kidney has a normal shape and size (3.59 cm) with numerous cortical cysts measuring up to 0.5 cm. Overall echogenicity is slightly hyperechoic with poor 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 (3.74) with occasional small cortical cysts. Overall echogenicity is slightly hyperechoic with poor 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 0.62 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 0.39 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 and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. Rare discrete focal hyperechoic, perivascular parenchymal abnormalities are present. The appearance of these lesions is most consistent with benign splenic myelolipomas. The blood flow through the hilus and splenic parenchyma appears normal.

Liver

The liver is large in size, and echogenicity 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 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.

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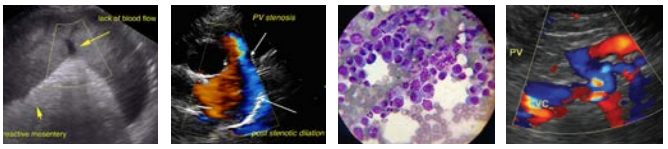

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Gastrointestinal

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering 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.

Other

A brief view of the heart was submitted. No pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

- Severe diffuse thickening of the urinary bladder wall with marked mucosal irregularity. The diffuse nature of this lesion is more consistent with cystitis, but the level of severity and extension to the prostate causes high concern for the possibility of a neoplastic process.
- Large, irregular prostate – If this dog was neutered at an early age, there is high concern for a neoplastic process causing prostatic enlargement. If he was neutered late in light, this could be a more normal fining.
- Decreased corticomedullary distinction in both kidneys with cortical cysts – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Large, heterogeneous 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.

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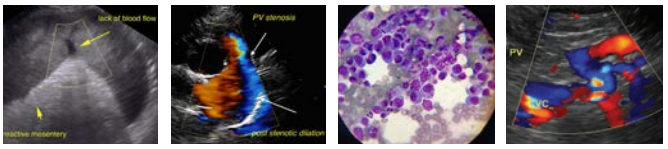

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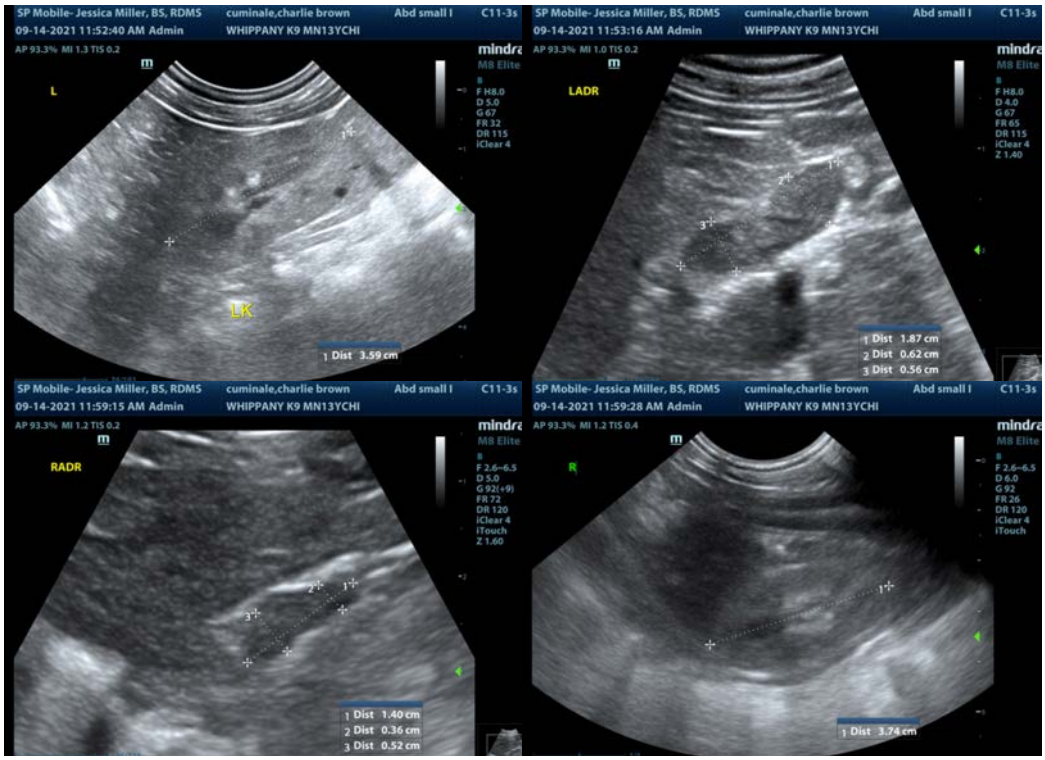
SECONDARY FINDINGS

- Moderate gallbladder sludge – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.
- Moderate ingesta and dilated stomach – Correlate with feeding history. If patient was adequately fasted, differentials would include delayed gastric emptying or partial gastric obstruction.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The bladder and prostate are very abnormal. Findings are very concerning for a neoplastic process, but the nature of the lesion is diffuse, so this is either very advanced, or could be consistent with a case of complicated cystitis (?). Recommend urinalysis and culture. If urine is highly cellular, you could consider cytology on the urine. Otherwise, options include traumatic catheterization, fine needle aspirate of the prostate, and/or urine BRAF test. If negative, this is a non-diagnostic test and additional diagnostics would be needed. If positive, this would greatly increase suspicion for a neoplastic process. Recommend 3-view thoracic radiographs.

The kidney changes reported are consistent with chronic progressive disease. Recommend blood pressure evaluation. The liver and gallbladder changes are relatively mild and could be consistent with age related change. If liver enzymes are significantly elevated, you could consider a liver function test or fine needle aspirate of the liver.



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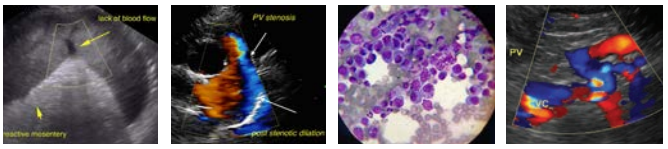

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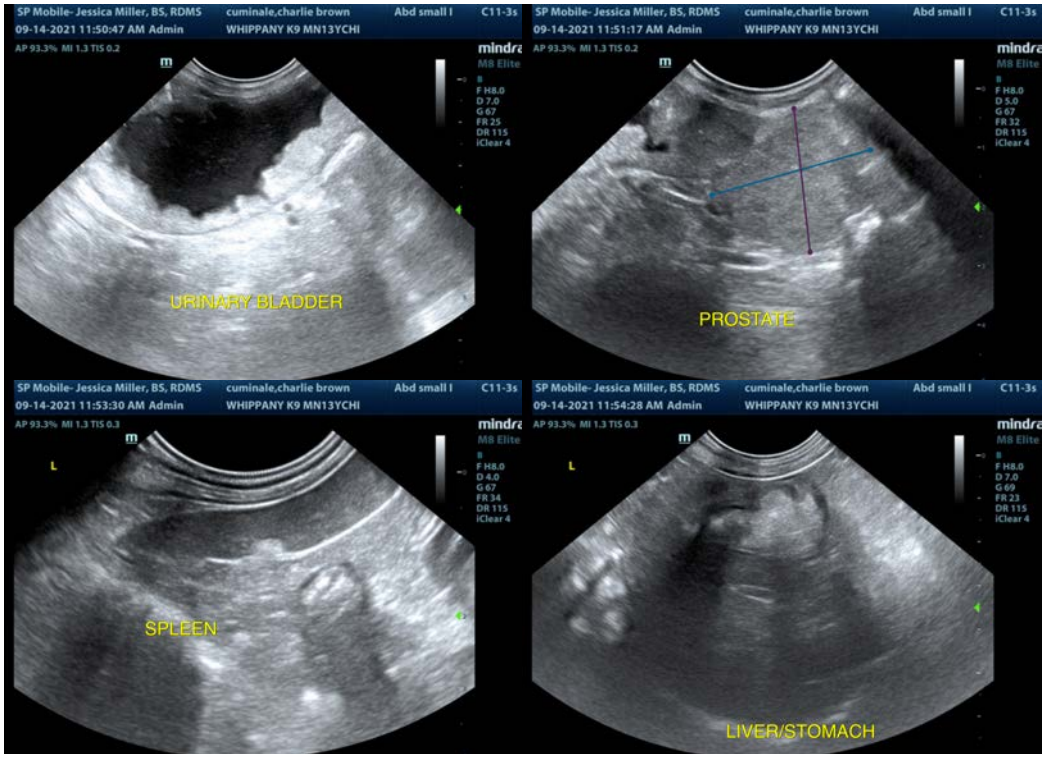

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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