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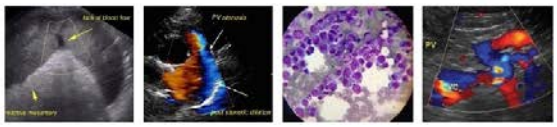

THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Holly Cooper

SPECIES

Canine

BREED

Pomeranian

SEX

Spayed Female

AGE

12 Years

WEIGHT

5.9 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Reschny

HOSPITAL NAME

Maples AH

REFERRING VET

Dr. Kazienko

INVOICE

38618

DATE

6/10/22

PRESENTING CLINICAL SIGNS

elevated liver enzymes, waxing and waning appetite meds: ursodiol

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The apical wall appears somewhat irregular at the mucosal surface. The remainder of the wall appears normal. The area of the trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal and free of any mass lesions or calculi. These changes are most consistent with bacterial cystitis or lack of urine distention. Recommend urinalysis and culture and continued for progression of this lesion. An underlying neoplastic lesion cannot be excluded.

The left kidney has a normal shape and size (2.88 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 (3.81 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.

Adrenal Glands

The left adrenal gland is normal/"plump" in size measuring 0.61 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/"plump" in size measuring 0.69 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 large in size, and normal in 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 gallbladder lumen is significantly distended. It has a large volume of hypoechoic, mildly structured intraluminal material with little free lumen. There is a small amount of hyperechoic tissue surrounding the gallbladder in some areas, consistent with an inflammatory response. The bile duct does not appear significantly distended.

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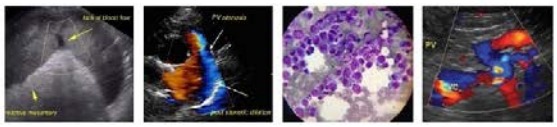

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Gastrointestinal

The stomach is mildly dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. It largely 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. There is a focal area of gastric wall that appears somewhat irregular and thickened, measuring 0.91 cm x 1.16 cm. This irregularity involves only the mucosal layer, and could be artifact due to an abnormal rugal fold, but there is concern for a focal lesion.

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.

PRIMARY FINDINGS

- Irregular bladder mucosa at the apical surface – primary differentials are bacterial cystitis or lack of urine distention, less likely neoplastic change. Recommend urinalysis and culture and continued monitoring.
- 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.
- Large, distended gallbladder with organized intraluminal material and mild surrounding inflammation – consistent with an inflamed gallbladder mucocele.
- Possible irregularity and thickening to a focal area of gastric mucosa – possible differentials would be an ulcer, mass lesion, abnormal rugal fold, etc.

SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.

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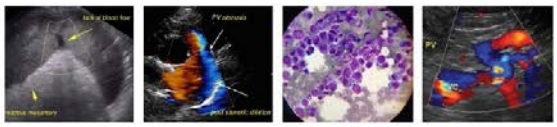

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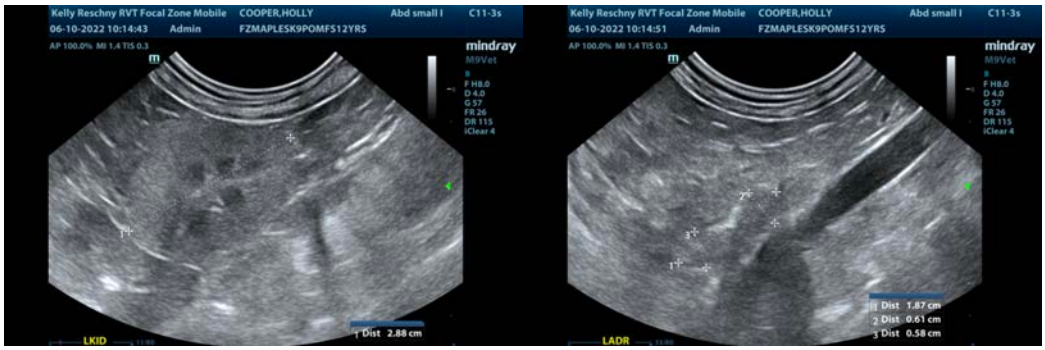
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

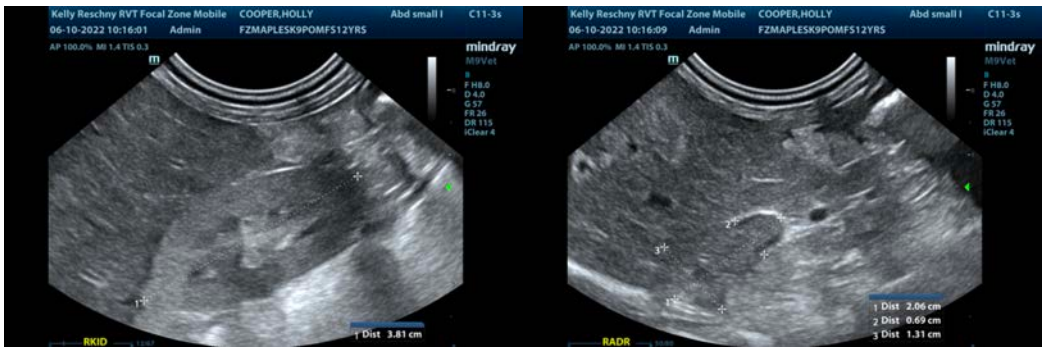
The primary lesion observed is a large, distended gallbladder mucocele. There appears to be some surrounding inflammation, but no free fluid. Correlate with bloodwork findings, as typically you'll see an elevation in ALP +/- bilirubin (lab values not provided). I feel this is likely a surgical lesion. The liver itself is also large and heterogeneous. Recommend a biopsy of the liver.

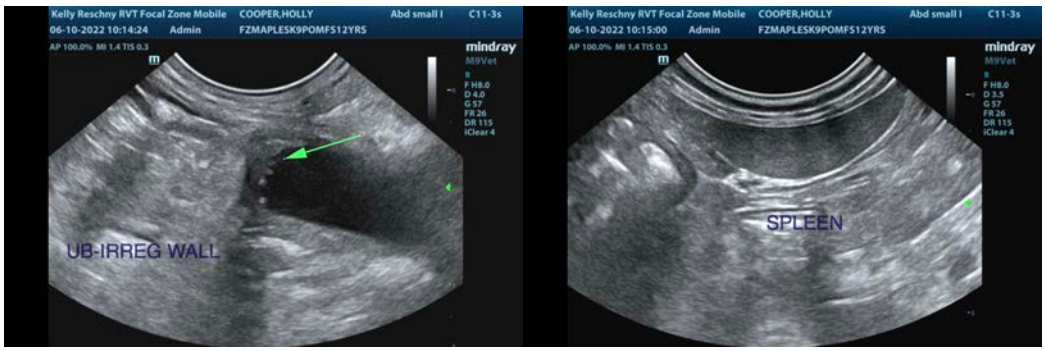
There is a subtle irregularity visualized involving the gastric mucosa. The stomach is not distended, so this could be an abnormal rugal fold. If surgery is pursued to remove the gallbladder, then consider evaluation of the gastric mucosa at the same time.

While not overtly enlarged, both adrenal glands appear somewhat "plump". If signs of Cushing's are present, adrenal function testing could be considered in the future when gallbladder disease is not suspected.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.







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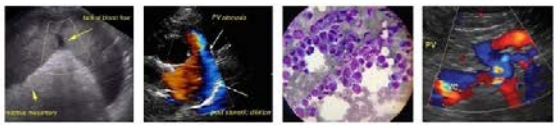

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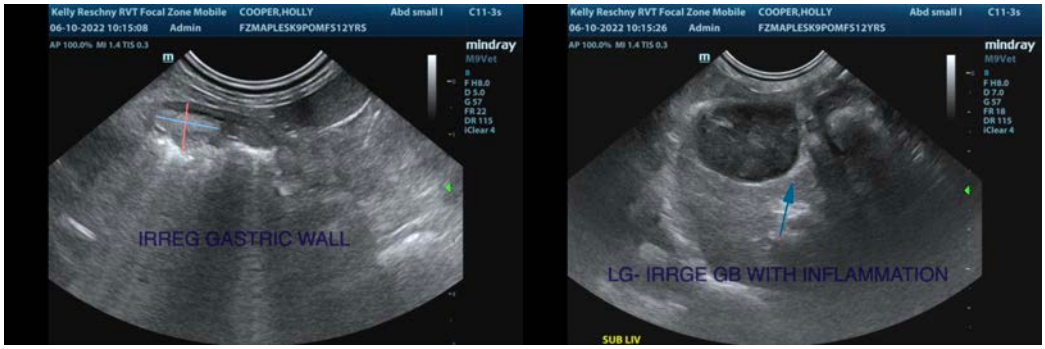

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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