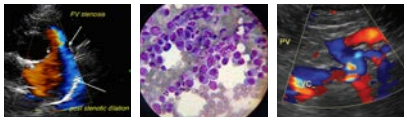
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
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DATE

1/11/23

PATIENT

Mia Cueto

SPECIES

Canine

BREED

Mixed

SEX

Spayed Female

AGE

3/4/17

WEIGHT

16 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Paradise AH

REFERRING VET

Dr. Halpern

INVOICE

44129

PRESENTING CLINICAL SIGNS

Elevated liver enzymes, dilute urine with TNTC hyaline and granular casts, renal values inappropriately midrange, ADR and abdominal pain

Current Medications: Carprofen-- 1/7-1/9, Robaxin-- 1/7 – present, Gabapentin-- 1/10 - present
Lab Results: CBC: Reticulocytosis, Monocytosis. Chem: Renal values low end normal, ALT= 2.5X URI (341), ALP= 4.5X URI (528), GGT= 2X URI (25), T4= 3.3 wnl. UA: USG= 1.014, pH= 5, >1 hyaline cast / LPF, >1` non hyaline cast/ LPF, Minimal cellularity otherwise, 4DX- negative x 4, Spec cPL-- pending
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (4.7 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. Non-obstructive areas of mineralization/nephroliths are noted. Mild pyelectasia is noted. A hyperechoic band parallel to the corticomedullary border is present.

The left kidney is normal in size (4.16 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. Non-obstructive areas of mineralization/nephroliths are noted. Mild pyelectasia is noted. A hyperechoic band parallel to the corticomedullary border is present.

Adrenal Glands

The right adrenal gland is normal in size (1.67 cm long x 0.52 cm at the cranial pole and 0.47 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (2.11 cm long x 0.57 cm at the cranial pole and 0.51 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately overdistended with organized, aggregated and centralized non-gravity dependent sludge. Striations of sludge separated by anechoic areas are noted extending from the lumen to the luminal wall. The wall is mildly thick, irregular and hyperechoic. There is no evidence of CBD dilation.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

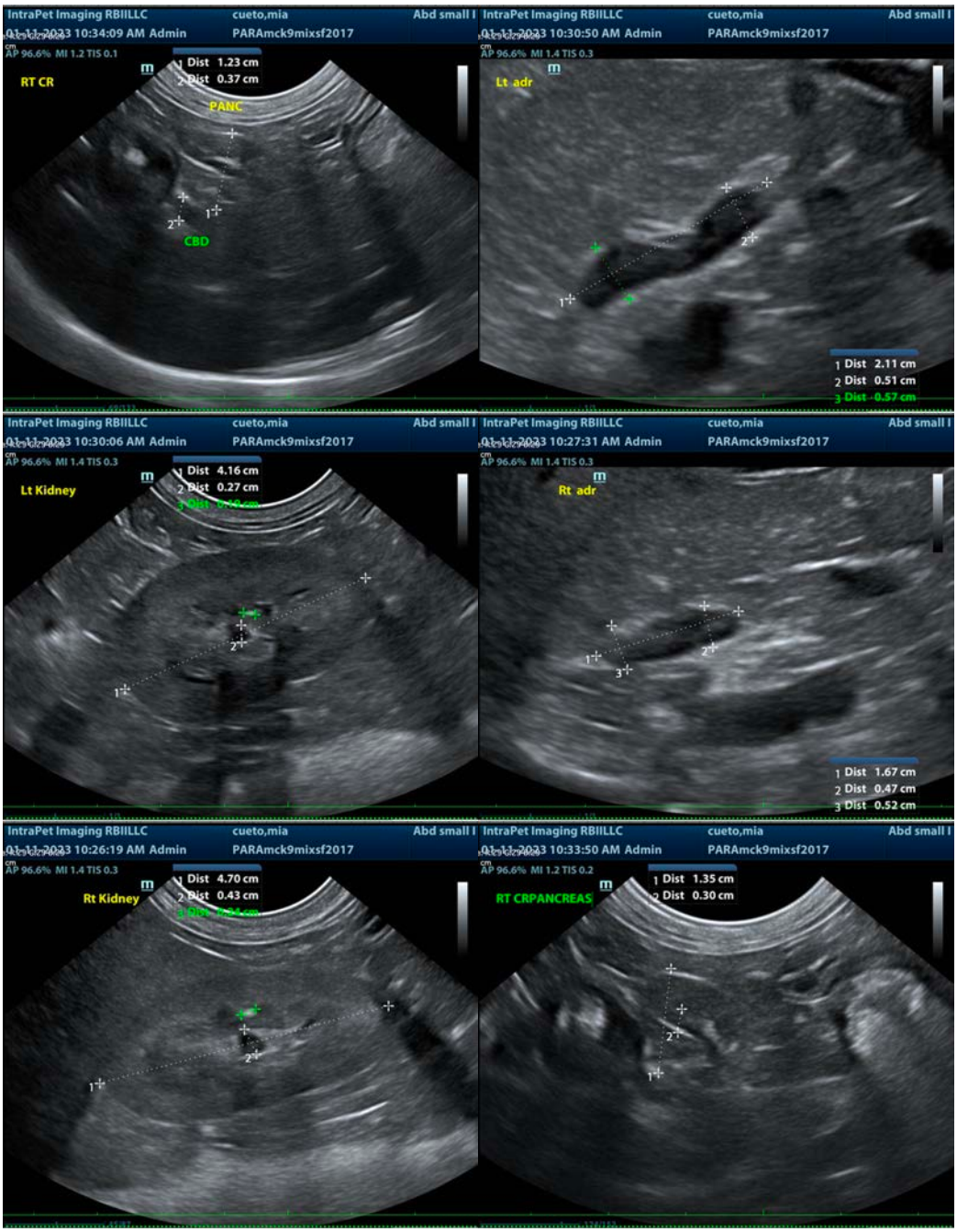
- Gallbladder mucocele
- Chronic active pancreatitis
- **Bilateral medullary rim sign -** This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.
- **Bilateral pyelectasia –** Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.
- Bilateral non-obstructive nephrolithiasis

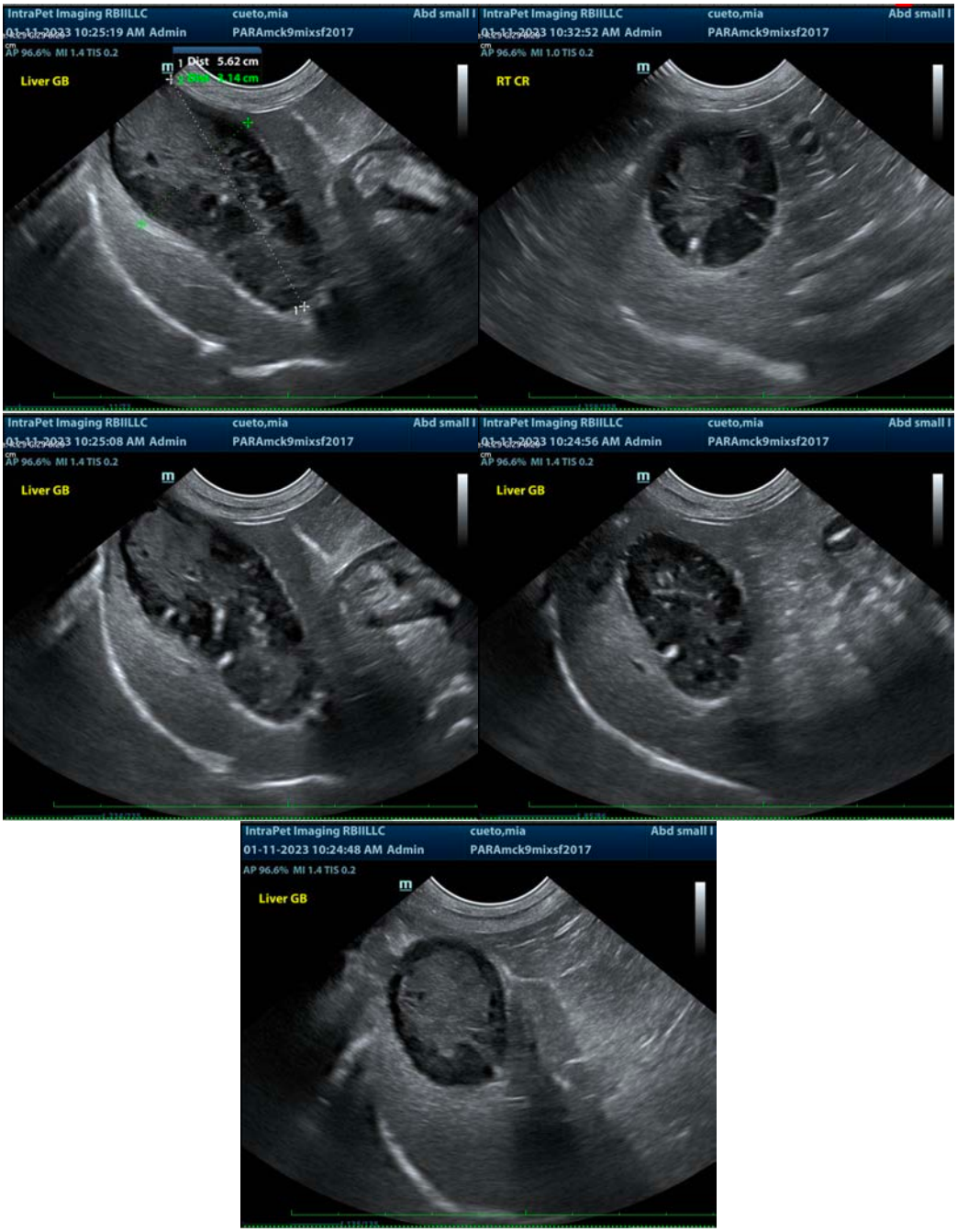
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Medical management for the gallbladder mucocele, including hepatic nutraceuticals including Ursodiol and broad-spectrum antibiotics could be considered with close monitoring of liver enzymes, patient status, and ultrasound findings for progression. However, given the reported clinical signs and cranial abdominal pain already, the recommended approach is an exploratory laparotomy for planned cholecystectomy.

Given this patient's reported urinalysis results, etc., early chronic kidney disease may be present. Therefore, caution should be shown perioperatively to avoid further kidney insults in the form of hypotension with anesthesia, nonsteroidals if possible, etc.

Following surgery and resolution of the mucocele, recheck bloodwork and urinalysis is recommended to reassess the kidneys in an overall healthier state.





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.

Beth Johnson, DVM, DACVIM
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