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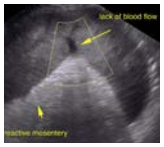
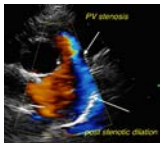
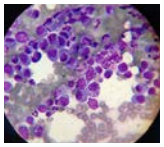
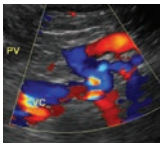

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
CJ Ford

SPECIES
Canine

BREED
Yorkie

SEX
Neutered Male

AGE
11 Years

WEIGHT
4.7 kg

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Erin Wicks

HOSPITAL NAME
Shores VEC

REFERRING VET
Dr. Lupole

INVOICE
40023

DATE
8/2/22

PRESENTING CLINICAL SIGNS

Starting vomiting yesterday morning and not wanting to eat. Watery fluid, vomited 1x on way to rdvm this am for BG check. BG- 400 this am. O gave 4units of Novolin N at 9:30am. Pt has not wanted to eat all day. O also checked ketones today ~4:30-5p and they were high on stick Previous Health Concerns: diabetic (one year), collapsing trachea (mild at present) Current Medications/Supplements/OTC: Metronidazole 50mg BID, Theophylline ¼ tab BID- no meds today Appetite/When did they eat last: decreased; yesterday Diet: Liver, chicken thighs Vomiting/Diarrhea: +/- Coughing/Sneezing: -/- Urination: ok Indoor/Outdoor: indoor Patient was examined near Philly last year for possible tracheal stents; surgery not done; apparently tested for HAC last year; rads at SVEC last year showed extensive hepatomegaly; still concerned about HAC
Abnormal PE/Chem/CBC/UA Results: Level of Pain: (0-4)1 BCS (0-5): 2.5(not counting bloated abdomen) Oral-Nasal-Throat: dental disease Ears: NE Eyes: OU NS Cardiovascular: 3/6 murmur noted 8/2/22 Respiratory: increased BV sounds Abdominal: full cranially Musculoskeletal: TL/L discomfort; some epaxial wasting; pot bellied Integument: thin undercoat(no secondary hairs) rad- continued hepatomegaly- no obvious bladder stones/ fb/ obstructions CBC- NSF(no stress picture) cPL- abnormal chem- BUN 74(H) Cr (0.30) (L) IP 6.8(H) Ca 7.9(corrects to 7.4) (L) Glucose >600 (H) Chol >450 (H) ALP 887 (H) GGT 23(H) lipase 584(H) EPOC: HCO3 13(L0 Na 122(L) K+ 3.0(L) Cl- 90 (L) iCa+ 90.91) (L) BUN 62 (H) glucose >700(H) Owner had checked ketones at home (H)

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 area of the prostate is examined without evident pathology.

The right kidney is normal in size (5.67 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted. A hyperechoic band parallel to the corticomedullary border is present.

The left kidney is normal in size (5.37 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present.

Adrenal Glands

The right adrenal gland is normal in size (0.70 cm thick), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (2.25 cm long x 0.70 cm at the cranial pole and 0.66 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.

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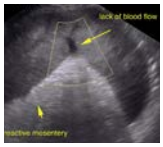
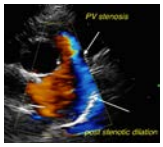
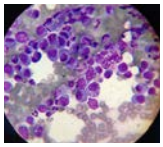
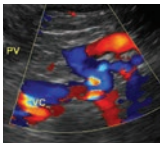

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Liver

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion.

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

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

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

There is no apparent lymphadenopathy noted in these images.

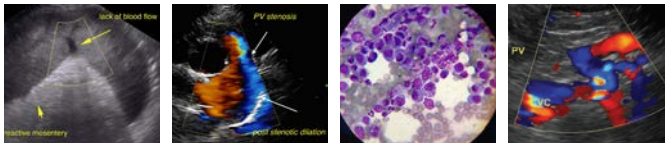
PRIMARY FINDINGS

- **Hyperechoic hepatomegaly -** This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.

- **Emerging mucocele –** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.

SECONDARY FINDINGS

- **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



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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.

- Non-obstructive nephrolith in the right kidney

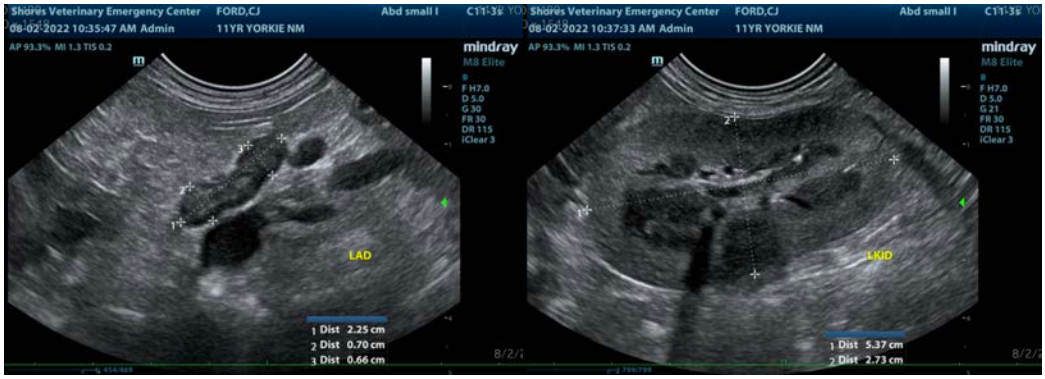
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

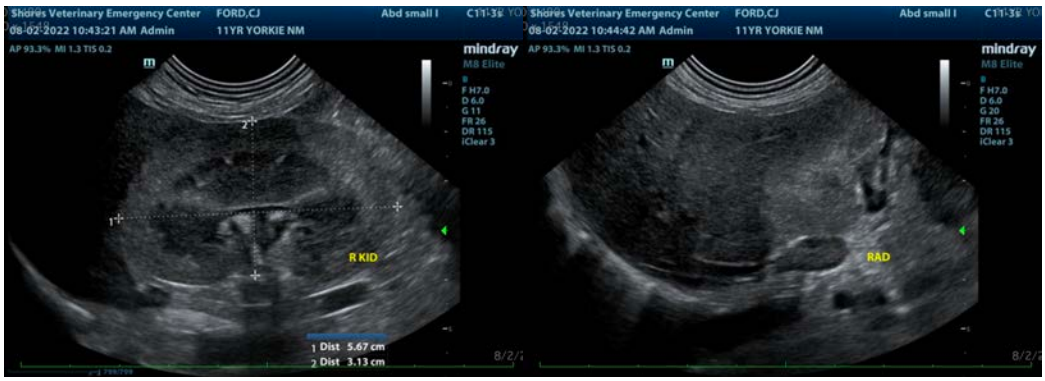
The hepatomegaly in this patient is likely secondary to the diabetes, and the gastrointestinal signs are likely related to the reported diabetic ketoacidotic state. However, given the concurrent hypocalcemia, further evaluation of both the GI tract as well as pancreas is recommended with a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory for further evaluation of GI and pancreatic function.

Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

In the meantime, medical management of DKA is recommended in the form of fluid therapy, electrolyte normalization, short acting frequent insulin until ketones have resolved, at which time transition back to longer acting, twice daily at home insulin can be reinitiated, antiemetics, gastroprotectants, pain management, etc. as indicated based on clinical signs. Given the patient signalment and hypocalcemia, an empirical low-fat diet, at least for the short-term, is recommended.

If gastrointestinal signs persist beyond medical management of DKA, and there is no supporting evidence for other gastrointestinal/pancreatic disease, reevaluation of the gallbladder and ultimately possibly cystectomy may be indicated, especially if supporting clinical signs such as cranial abdominal pain, etc. are noted.





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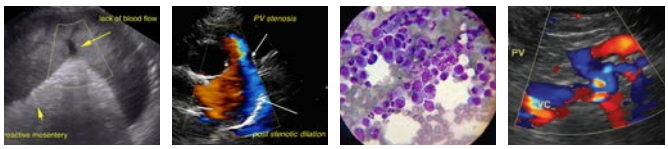

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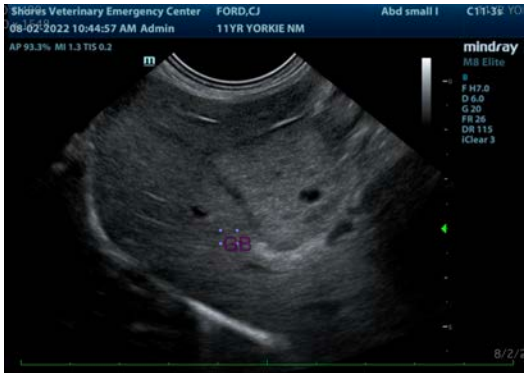

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com