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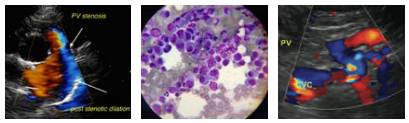

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DATE
9/14/21

PATIENT
Zack Grim

SPECIES
Canine

BREED
Schnauzer

SEX
Neutered male

AGE
4/28/09

WEIGHT
20.9 lbs

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

HOSPITAL NAME
Fullerton AH

REFERRING VET
Dr. Baker

INVOICE
91801

PRESENTING CLINICAL SIGNS

History: P has diarrhea and gets prescribed Metronidazole and as soon as course is finished diarrhea comes back ongoing issue for about 3 weeks; E/D normal No V/C/S. No RXN to vaccines or medications. PE: grade 3 to 4 heart murmur, lungs auscult with normal bronchovesicular sounds, BCS 2/5, mildly muscle wasted, severe dental disease, several papillomatous skin masses: on top of the head, right wing of ilium, darkly pigmented pendulous mass below the nasal planum.
Current Medications: Metronidazole 250 mg tablets #14
1/2 PO BID, Proviable DC 1 capsule PO QD, Vetmedin 2.5 mg PO BID,
Enalapril 5 mg PO BID. July 15, 2021 - 5 day course of Panacur.
Lab Results: (7-15-2021) Fecal was NOPS with a neg giardia ELISA; CBC: PLT 656 H (170-400) CHEM: ALK PHOS 204 (5-131) H, AST 14 L (15-66), Lytes: wnl, PSL: 315 H (24-140), OVA: NOPS, Giardia ELISA: Neg. (9-8-2021) CBC: PLT 516 H (170-400); CHEM: ALK PHOS 236 H (5-131); LYTES: WNL; 4DX: Neg. Anti-Porin IgA 39.9 EU/ml (< 15) H; Anti-Calprotectin IgA 12.9 EU/ml (<6) H; Anti-Gliadain IgA 66.2 EU/ml (<50) H
Radiographs: Not provided by the veterinarian.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation: Sedation not required for scan.
Stat Report: STAT report not requested by the veterinarian.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, 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 prostate is normal in size and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (5.03 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. Small, non-obstructive nephroliths were noted. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.98 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. Non-obstructive nephroliths were noted. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.48 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 0.45 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 subjectively normal 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. There are occasional, ill-defined, hypoechoic nodules visualized in the parenchyma and measured 1.12 cm and 1.36 cm. The gallbladder lumen is moderately distended. The wall of the gallbladder 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. The duodenum measured as normal and the jejunum measured as normal (0.23 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. 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.

ULTRASONOGRAPHIC FINDINGS
PRIMARY FINDINGS:

- Large, heterogenous liver with ill-defined, hypoechoic nodules. 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.

- Moderate gallbladder sludge. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

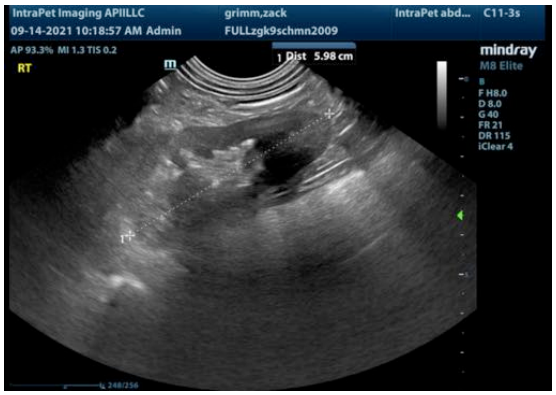
SECONDARY FINDINGS:

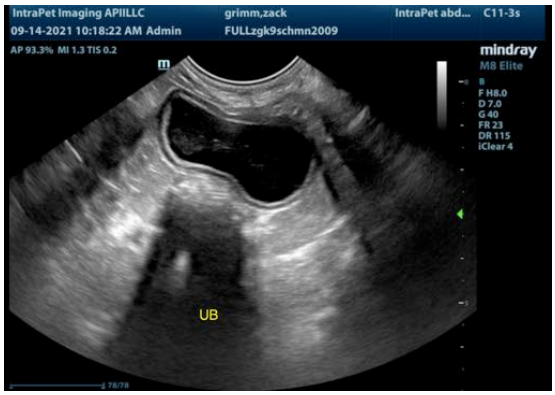
- Non-obstructive nephroliths in both kidneys. The hyperechoic mineralized foci observed at the corticomedullary junction of the left/right kidney are consistent with small, non-obstructive nephroliths.

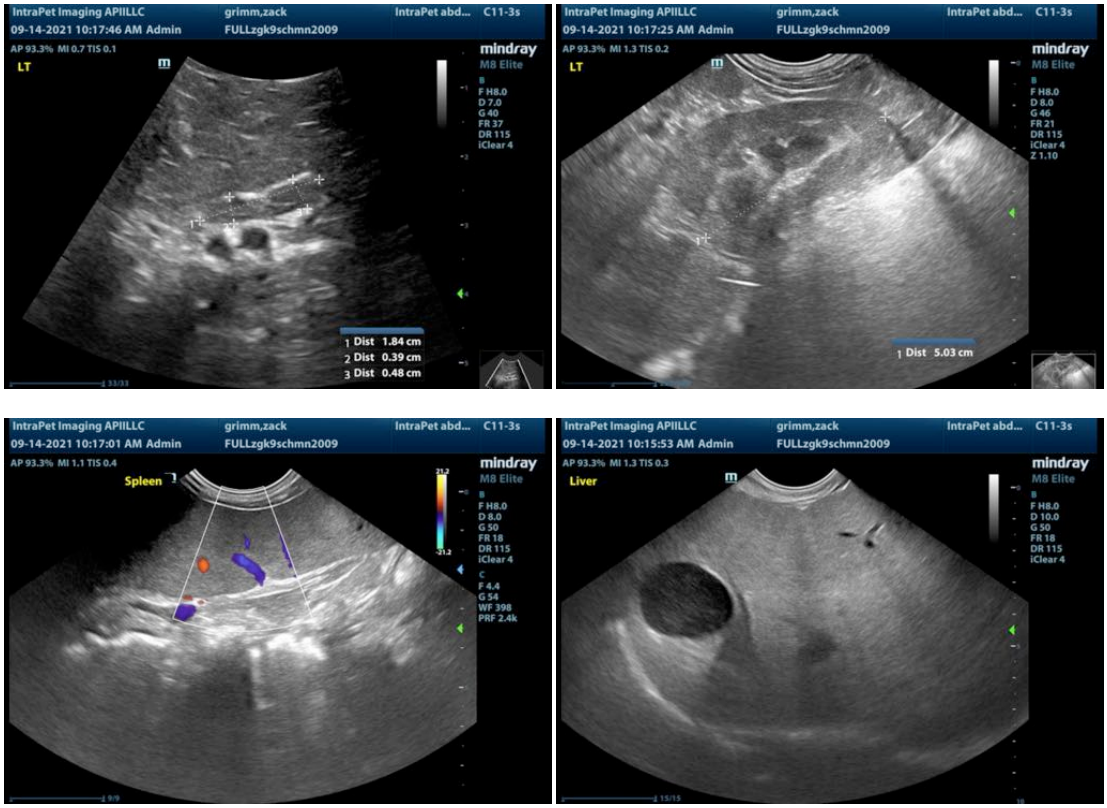
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver changes observed are most consistent with a vacuolar hepatopathy, but liver sampling (FNA would be necessary to rule out round cell neoplasia, etc.

There were no significant lesions observed associated with the gastrointestinal tract. This is not uncommon because many causes for GI signs cannot be definitively diagnosed by ultrasound alone. The response to Metronidazole leans partially towards an issue with dysbiosis. Consider testing for Clostridium and starting a probiotic (if not already on one) or if you are already on one try changing to a different brand (proviable, Fortaflora, Visbiome, etc). Additionally there could be some small intestinal inflammation present such as IBD, etc., but GI biopsies would be necessary to determine this. Based on the GI panel run there is concern for a Gliadin sensitivity. Following the recommended dietary therapy seems appropriate. I would also measured B12 and folate levels to determine if supplementation is needed.







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.

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