

**DATE PRESENTING CLINICAL SIGNS**

12/20/22

Friday PM: started vomiting around 12x - took him to Carrol county ER, cerenia inj, SQ fluids, BG WNL - stopped vomiting. Next day started with diarrhea and appetite has been decreased. Nothing change in his diet - unsure if he ate something off the floor. Royal Canin multifunction urinary SO and hydrolyzed protein, since puppy due to concerns for chicken allergy - known sensitive GI tract - will give boiled chicken occasionally, rdvm thinks it was more food poisoning when he was a puppy instead of chicken allergy This AM: stool was soft but not diarrhea - did eat this AM Dropped off at rdvm this afternoon - did bw but waiting on results, help off on xrays - working on setting him up for abdominal US - got another inj of cerenia SQ fluids - was not interested in eating there. This evening did eat some baby food for owner - was burping a lot at home, around 10p 2.5 mg of Pepcid. Woke up panting and breathing heavy - seemed hunched over when walking, has been licking his lips more. When owner picked up to bring in yelped out a bit - owner thought he felt a bit warm Bw at the beginning of december with neuro that has no real liver or kidney changes. Has been tested for cushings and the test was inconclusive. Typically start to have stomach flare when the metro ends - seems to improve when giving the metro again Fed 4x/day Hx of syringomyelia, being treated with neuro Dr Mcdonald - on gaba and omeprazole - has been tapered off pred Current med: - Gabapentin 50 mg q12 - last given 630p - Omeprazole 2.5 mg q12 - last given 630p - Metronidazole 4 ml q12, was off for a week but restarted again on sat - last given 630p

PATIENT

Buddy Castillo

SPECIES

Canine

BREED

Yorkie X

SEX

Neutered Male

AGE

3/17/15

WEIGHT

5.3 Pounds

Current Medications: Protonix, Buprenorphine, Cerenia, Gabapentin, Ondansetron.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

INTERPRETED BY

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

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.

IMAGING PERFORMED BY

Rachel Brilhart RDMS

The prostate is normal in size (0.87 cm) 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.

HOSPITAL NAME

Animal Emergency
Hospital

The left kidney has a normal shape and size (3.44 cm) with small non-obstructive nephroliths. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

REFERRING VET

Dr. Nacke-Horney

The right kidney has a normal shape and size (3.78 cm) with occasional small non-obstructive nephroliths. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

INVOICE

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Adrenal Glands

The left adrenal gland is normal/borderline large in size measuring 0.69 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/borderline large in size measuring 0.78 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. There are numerous ill-defined hypoechoic nodules visualized throughout the parenchyma, primarily varying in size from 0.25-0.50 cm.

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.

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. In some images, the gastric wall appears somewhat prominent, measuring approximately 0.61 cm with intact wall layering.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Jejunum wall measures 0.30 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 prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There are some areas of mesentery surrounding the pancreas that appear somewhat hyperechoic.

Free Abdomen

There is a scant amount of free fluid. No lymphadenopathy. The omentum is mildly hyperechoic in the cranial abdomen in the region of the pancreas.

PRIMARY FINDINGS

- Mottled pancreas with some areas of surrounding hyperechoic mesentery – Findings could be consistent with mild pancreatitis or possibly previous episodes of pancreatitis.
- Large, heterogeneous, nodular 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. The nodules observed trend toward a more benign

process but underlying neoplasia cannot be ruled out.

SECONDARY FINDINGS

- Mild gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.
- Borderline bilateral adrenomegaly – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended. This is not likely to be related to the current illness.
- Questionable gastric wall thickening – The stomach wall thickening could be consistent with inflammation, edema, infiltrative neoplasia, imaging artifact due to rugal folds, other.
- Subjective mild small intestinal thickening – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is large and heterogeneous with numerous ill-defined hypoechoic nodules. The appearance of these nodules trends towards a more benign etiology, but if significant liver enzyme elevations are present, consider a liver function test and a fine needle aspirate of the liver (provided coagulation parameters are normal).

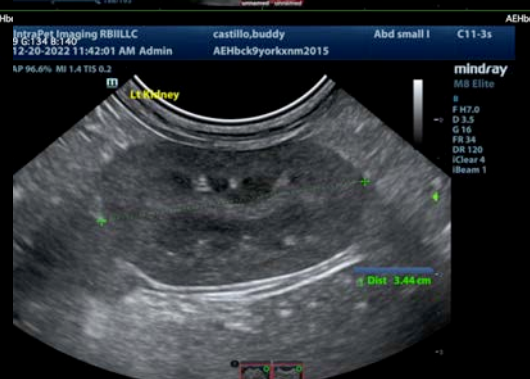
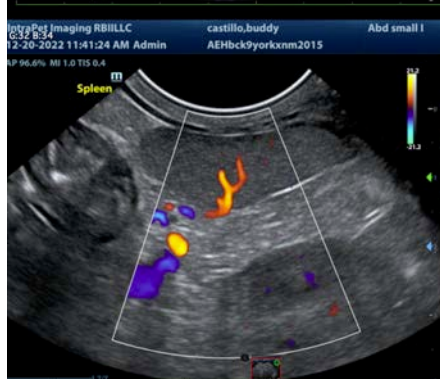
Additionally, the pancreas is somewhat mottled, and there is some hyperechoic mesentery in the cranial abdomen, which could be associated with the pancreas and mild pancreatic inflammation. Correlate these findings with a cPLI level and consider empirical treatment for pancreatitis/acute gastroenteritis.

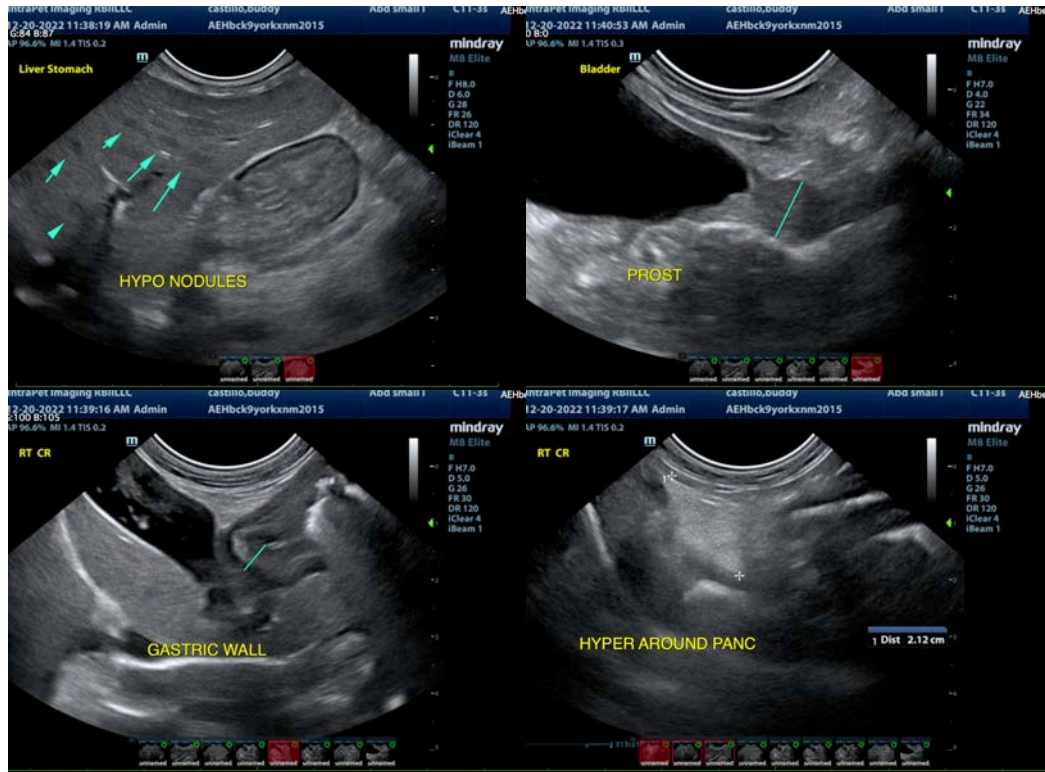
The stomach and small intestinal wall appear subjectively mildly thickened, with intact layering. Given the chronic history of GI symptoms, consider further evaluation for chronic vomiting/diarrhea.

Consider such differentials as food allergy/dietary intolerance, GI parasitism, pancreatitis, dysbiosis, recurrent dietary indiscretion, IBD and less likely neoplasia, etc....

- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.
- Consider chronic probiotic therapy.
- If symptoms persist, consider obtaining GI biopsies.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.





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.

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