**DATE PRESENTING CLINICAL SIGNS**

8/22/23 History of chronic intermittent v/d. Not responding as well to treatment this time. 1 lb weight loss in 10 days with continued vomiting.

PATIENT

Black Tiger Goeller

Current Medications: Cerenia, B12, Pred and switching to Budesonide

Lab Results: 8/8- CBC, Chem WNL

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Stephanie Warga RDCS, RVT.

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

9/16/15

WEIGHT

8.9 Pounds

INTERPRETED BYBeth Johnson, DVM
DACVIM**HOSPITAL NAME**

Hickory Vet Hospital

REFERRING VET

Dr. Lyle

INVOICE

44836

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with a moderate to large amount of echogenic non-shadowing debris, which could be partially consistent with incidental suspended lipid in a cat, likely combined with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (3.56 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.

The left kidney is normal in size (3.75 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.

Adrenal Glands

The right adrenal gland is normal in size (0.40 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.40 cm), 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.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The visible stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering in most images, with a couple views present that demonstrate a mildly thick stomach measuring 0.60-0.61 cm thick with intact layering still noted. The lumen of the stomach is mildly distended with fluid as well as echogenic non-shadowing luminal contents and gas, consistent with normal ingesta, as well as a small echogenic interface with some subtle distal progressively shadowing material consistent with possible hairball.

The visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction or foreign material noted.

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

Pancreas

The observed pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and irregular in shape with a swollen undulating contour. Enhanced hyperechoic ill-defined surrounding fat is noted.

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

- **Inflammatory bowel disease (IBD) pattern** – Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling.
- **Concurrently mildly thick stomach** – This may represent the same infiltrative process, with both benign inflammatory as well as infiltrative round cell neoplasia being differential, or this change may represent normal patient variant/rugal folds. Given that this study appears generally post-prandial with ingesta throughout the stomach and bowel. The gastric contents should be interpreted cautiously. There could be a hairball present, but there is no indication of obstruction present in these images currently.
- Concurrent mild or possibly emerging, or even resolving pancreatitis is suspected.
- Urinary bladder debris

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, this patient's clinical signs are suspected via combination of infiltrative bowel disease +/- concurrent infiltrative disease affecting the stomach as well as potentially mild pancreatitis and less likely a gastric hairball obstruction. Having said that, based on appearance, vomiting secondary to hairball can't be ruled out.

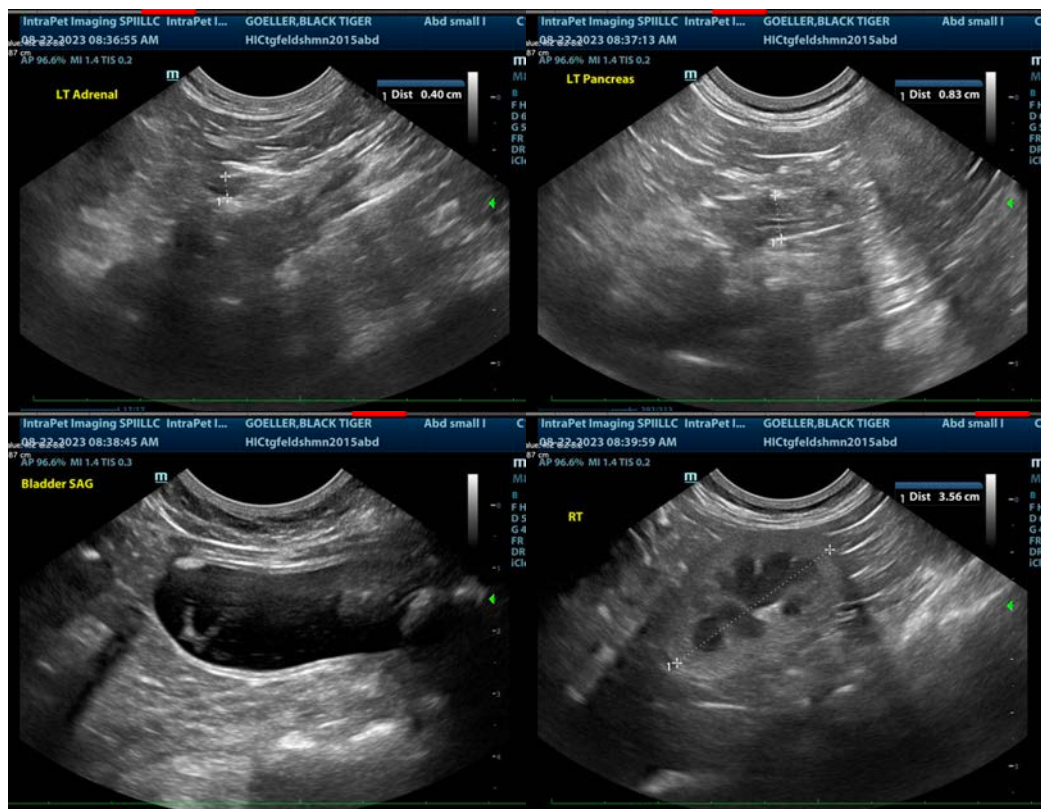
A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

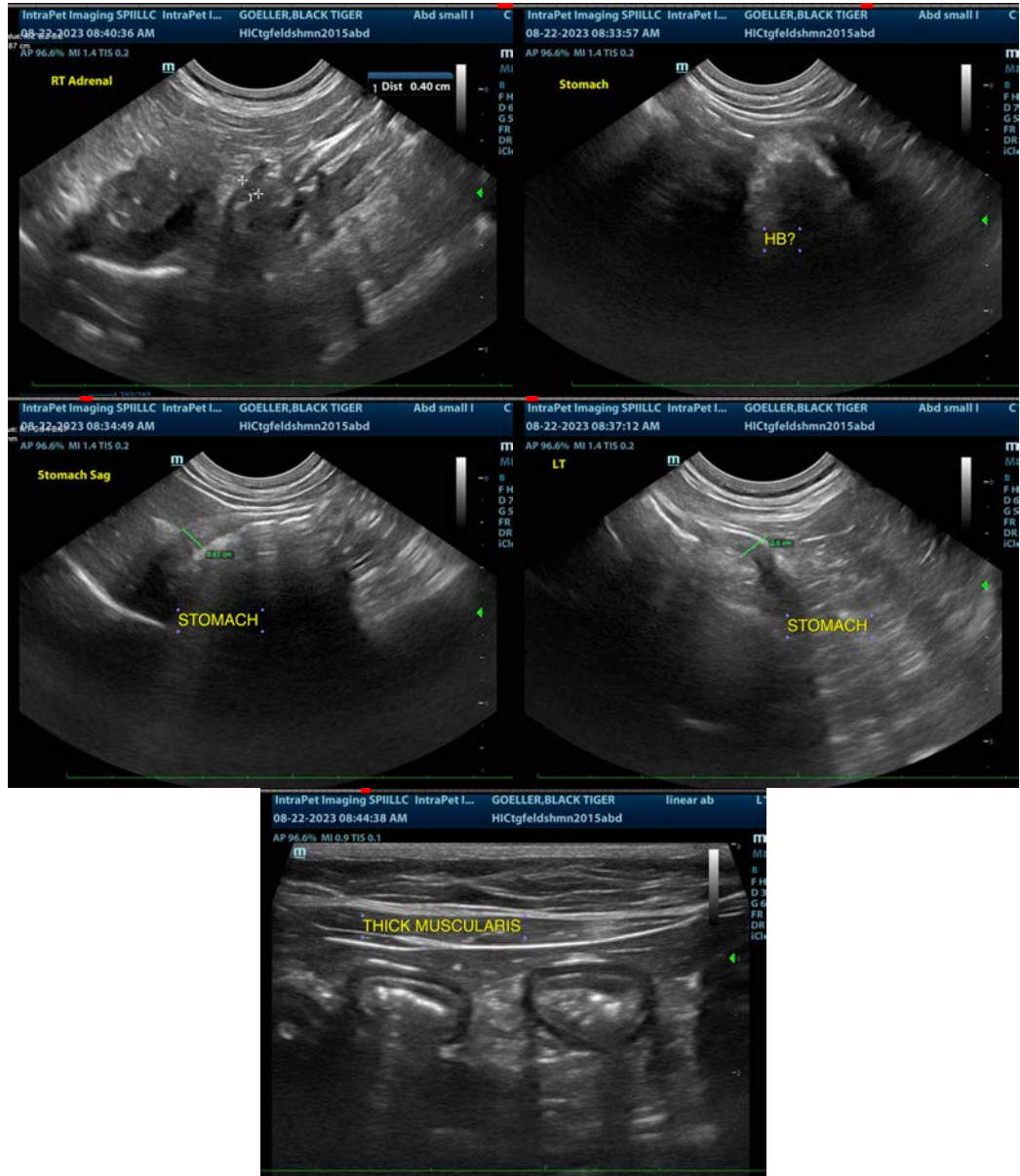
Ultimately, biopsies of the GI tract, being sure to include ileum, if possible, are recommended for a definitive diagnosis. How to obtain biopsies should be guided based on progression versus resolution of the suspected gastric hairball, potentially dictated by recheck fasted imaging. Without concern for obstruction, biopsies could be obtained endoscopically, or alternatively surgery would allow for removal of hairball if it is persistent with recheck fasted imaging.

If biopsies cannot be obtained, empirical therapies could include a probiotic (if diarrhea is present, such as visbiome or proviable), empirical deworming with a 5-day course of Panacur and, if tolerated, a transition in diet, based on trial-and-error response, beginning with a hydrolyzed protein diet. Some patients respond to one brand/version of a hydrolyzed protein diet better than another brand, so several trials may be required.

Additional considerations could include cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.).

Additionally, if not recently evaluated, a 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 ratio is recommended.





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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