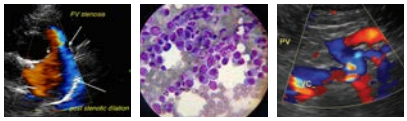
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE

8/16/22

PATIENT

Jackson Miller

SPECIES

Canine

BREED

Golden Retriever

SEX

Intact Male

AGE

8/13/20

WEIGHT

84.4 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. King

INVOICE

40508

PRESENTING CLINICAL SIGNS

Patient had scoping procedure on 8/13 to remove piece of foreign material from stomach- removed piece of what looks like a football- owner said patient had chewed it up almost a year ago and had vomited and defecated pieces. He is having severe liquid diarrhea, ongoing
vomiting. Stomach looked very inflamed during scoping with areas of ulceration.

Current Medications: Ondansetron, Metronidazole, Unasyn, Sucralfate, Metoclopramide, Protonix, Cerenia.
Lab Results: Now severe hypoproteinemia. TS- 3.8, Alb- 1.6
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

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.

Prostate is normal in size for an intact male (3.8 cm wide). Parenchyma is diffusely homogenous and relatively hyperechoic. Normal distinct margins and symmetrical bilobed shape are maintained.

The right kidney is normal in size (7.36 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 (7.11 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 (2.86 cm long x 0.90 cm at the cranial pole and 1.0 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 (2.86 cm long x 0.47 cm at the cranial pole and 0.55 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively large in size with normal smooth margins. Parenchyma is normal in echogenicity with a coarse/heterogenous echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. No focal nodules or masses 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 stomach wall is thick, measuring up to 1.8 cm thick with a diffusely hypoechoic wall and loss of layering present. The stomach is moderately distended with gas and surrounded by free fluid, markedly enhanced hyperechoic fat and mesentery, as well as enlarged hypoechoic epigastric lymph nodes.

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 a moderate amount of anechoic free fluid present.

Mesenteric lymphadenopathy is noted.

The testicles are examined with no evident pathology.

Enhanced fat and free fluid noted around the stomach, as described above.

ULTRASONOGRAPHIC FINDINGS

- **Thick gastric wall with loss of layering, surrounded by changes suggestive of a focal peritonitis** – Differentials include infiltrative disease with infiltrative neoplasia such as lymphoma being a concern. The surrounding suspected peritonitis could be a paraneoplastic effusion, or could be secondary to the reported hypoalbuminemia, or, given this patient's recent history of endoscopy and an ulcerated stomach at the time of the procedure, a gastric perforation that is being sealed off cannot be definitively ruled out.

- **Hypoechoic hepatomegaly** – This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered.

- **Coarse splenomegaly –** can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, amyloidosis (leave amyloidosis out if canine) as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.

- **Mesenteric lymphadenopathy –** Both infiltrative neoplastic disease as well as reactive mesenteric lymphadenopathy are differentials.

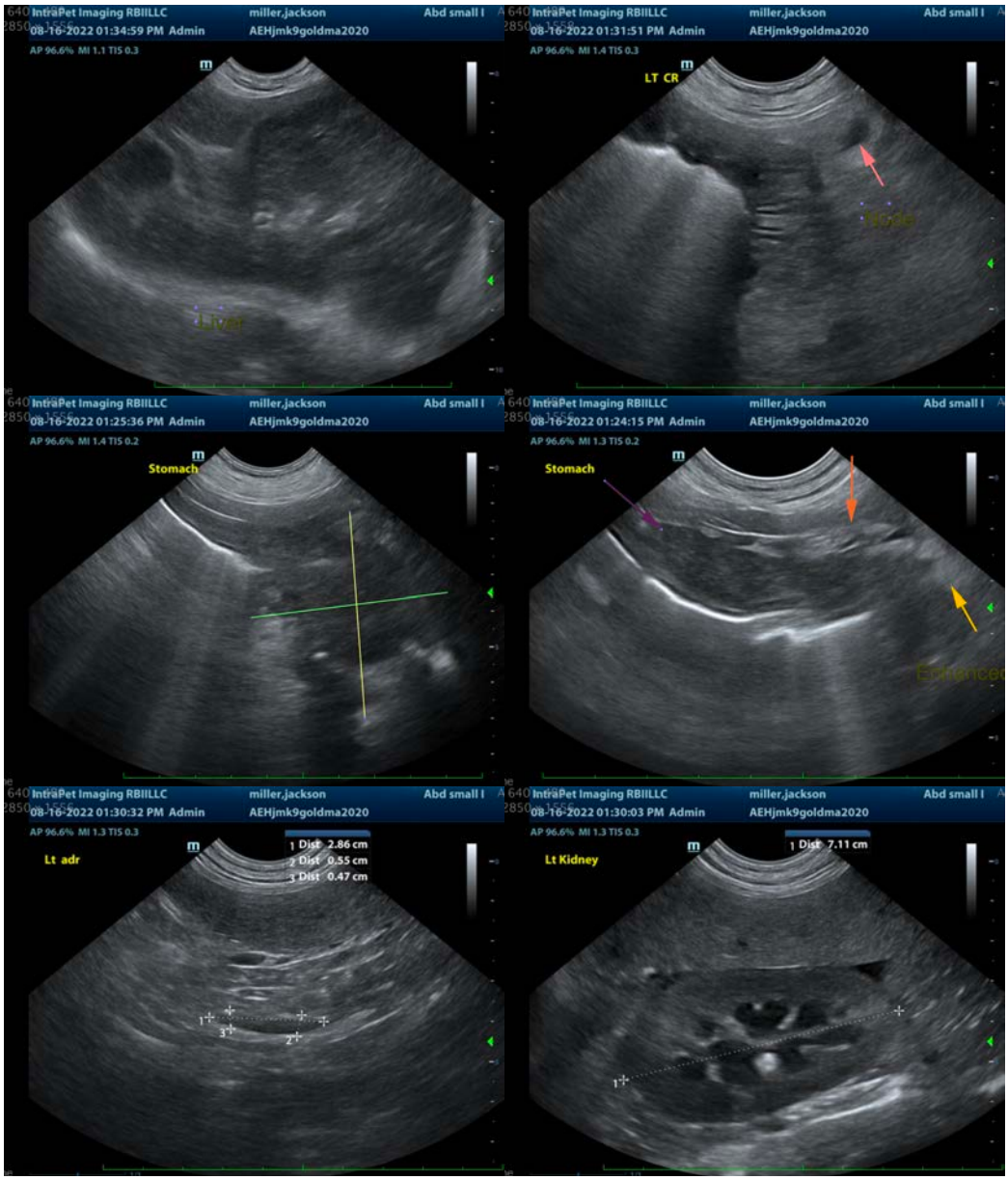
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

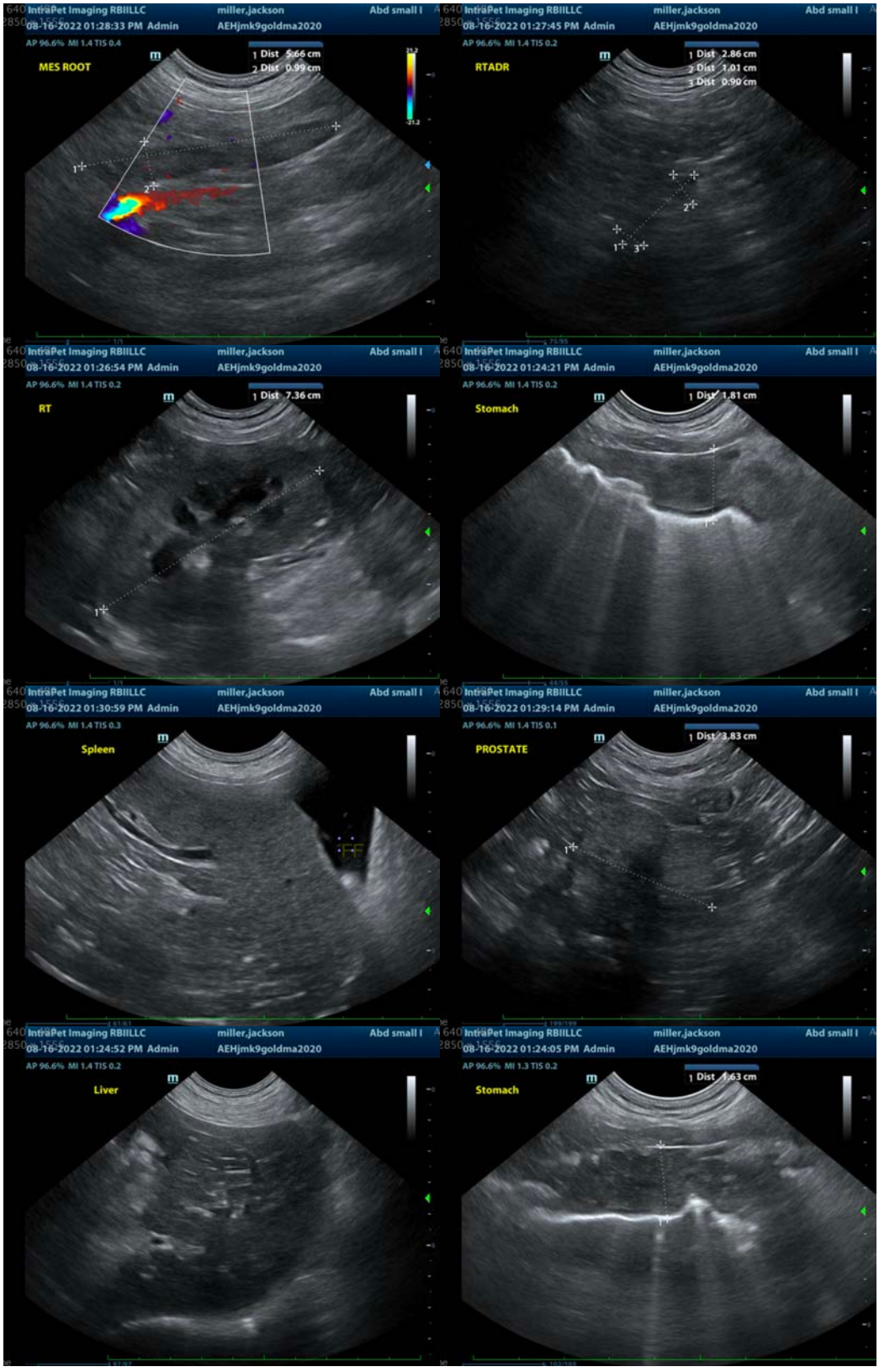
Given the combination of pathological changes present in these images, infiltrative neoplasia such as lymphoma is high on the list of differentials. It is possible that infiltrative bowel disease and a concurrent protein losing enteropathy, etc. was present and resulted in the gastrointestinal signs and potentially the previously removed foreign material was incidental. However, alternatively, these gastric wall changes could

be benign inflammatory, potentially secondary to the foreign body, with inflammation or potentially even perforation present now, resulting in thick, hypoechoic loss of layering.

Ideally, a surgical exploratory laparotomy with gastric wall examination and biopsy as well as lymph node biopsy +/- spleen and liver biopsy, etc. is recommended. However, given this patient's hypoalbuminemia, surgery of the gastrointestinal tract carries high risk for dehiscence, etc. Therefore, an alternative approach could include a fine needle aspirate of the stomach, liver, spleen, enlarged lymph nodes if possible, etc. to try to definitively rule in/out lymphoma.

In the meantime, 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.




IntraPet Imaging RBIILLC
miller,jackson
Abd small I
08-16-2022 01:28:33 PM Admin
AEHjmk9goldma2020
AP 96.6% MI 1.4 TIS 0.4
MES ROOT
1 Dist 5.66 cm
2 Dist 0.99 cm
IntraPet Imaging RBIILLC
miller,jackson
Abd small I
08-16-2022 01:27:45 PM Admin
AEHjmk9goldma2020
AP 96.6% MI 1.4 TIS 0.2
RTADR
1 Dist 2.86 cm
2 Dist 1.01 cm
3 Dist 0.90 cm
IntraPet Imaging RBIILLC
miller,jackson
Abd small I
08-16-2022 01:26:54 PM Admin
AEHjmk9goldma2020
AP 96.6% MI 1.4 TIS 0.2
RT
1 Dist 7.36 cm
IntraPet Imaging RBIILLC
miller,jackson
Abd small I
08-16-2022 01:24:21 PM Admin
AEHjmk9goldma2020
AP 96.6% MI 1.4 TIS 0.2
Stomach
1 Dist 1.81 cm
IntraPet Imaging RBIILLC
miller,jackson
Abd small I
08-16-2022 01:30:59 PM Admin
AEHjmk9goldma2020
AP 96.6% MI 1.4 TIS 0.3
Spleen
IntraPet Imaging RBIILLC
miller,jackson
Abd small I
08-16-2022 01:29:14 PM Admin
AEHjmk9goldma2020
AP 96.6% MI 1.4 TIS 0.1
PROSTATE
1 Dist 3.83 cm
IntraPet Imaging RBIILLC
miller,jackson
Abd small I
08-16-2022 01:24:52 PM Admin
AEHjmk9goldma2020
AP 96.6% MI 1.4 TIS 0.2
Liver
IntraPet Imaging RBIILLC
miller,jackson
Abd small I
08-16-2022 01:24:05 PM Admin
AEHjmk9goldma2020
AP 96.6% MI 1.3 TIS 0.2
Stomach
1 Dist 1.63 cm

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