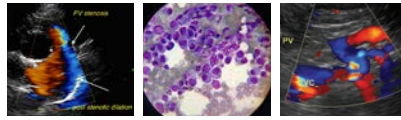


IMAGING PERFORMED BY

IntraPet.com



SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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

DATE PRESENTING CLINICAL SIGNS

12/1/22 Pt. went to E-Clinic for hemorrhagic gastroenteritis and diagnosed with linear FB. Had GI SX w/ R&A of ~25 inches of small intestine. Pre surgical BW had elevated T.Bili (4.0) and ALP (>1000) with slight icterus possibly thought to be bacterial translocation versus other? A small wedge liver biopsy was obtained at Sx, but not yet submitted. Surgical notes attached. Patient discharged and has been eating and drinking with no vomiting or diarrhea but progressively increasing liver enzymes.

SPECIES

Canine

BREED

German Shorthair Pointer

SEX

Spayed Female

Current Medications: Post-Op- 11/5: Clavamox-375mg- 10 days, Enrofloxacin-272mg SID 10 days, Metronidazole-375mg BID

10 days, Denamarin-425mg SID, Codeine-30mg q.6hr-12hr5 days.

11/16/22- Hepato- 2 capsules SID- 30 days. 11/17/22- Metronidazole-500mg- BID x 7 days

Lab Results: 11/1/22- ALP>1000, T.bili=4.0. 11/2/22- ALT=231, ALP=1766, T.bili=4.2. 11/4/22-ALT=164, ALP=1640, T.bili=3.7. 11/5/22-ALT=165, ALP=1555, T.bili=5.0. 11/17/22- ALT=1667, ALP=3513, T.bili=10.4. 11/28/22-ALT=1810, ALP=2633, T.bili=15.4

Date of Previous IntraPet Ultrasound: No previous.

Sedation: IV telazol.

Stat Report: Declined.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

AGE Urinary System

12/16/18

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.

WEIGHT

64 Pounds

The right kidney is normal in size (7.64 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.

INTERPRETED BY

Beth Johnson, DVM
DACVIM

The left kidney is normal in size (7.22 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.

IMAGING PERFORMED BY

Rachel Brilhart RDMS

Adrenal Glands

HOSPITAL NAME

Alexander AH

The right adrenal gland is normal in size (2.24 cm long x 0.76 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.

REFERRING VET

Dr. Alexander

The left adrenal gland is normal in size (2.28 cm long x 0.65 cm at the cranial pole and 0.68 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

INVOICE

43130

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 moderately to markedly overdistended with a mildly thick, hyperechoic, irregular wall and some suspended echogenic debris. The cystic and common bile duct are markedly distended, measuring up to 3.0 cm dilated, also with a thick, hyperechoic wall. The dilation is present all the way to the duodenal papilla without evidence of mineral, nodules, etc. to explain the dilation, giving suspicion to a stricture at the level of the duodenal papilla. Enhanced hyperechoic mesenteric fat and a scant amount of anechoic free fluid are noted surrounding the dilated common bile duct.

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 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

The medial iliac lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

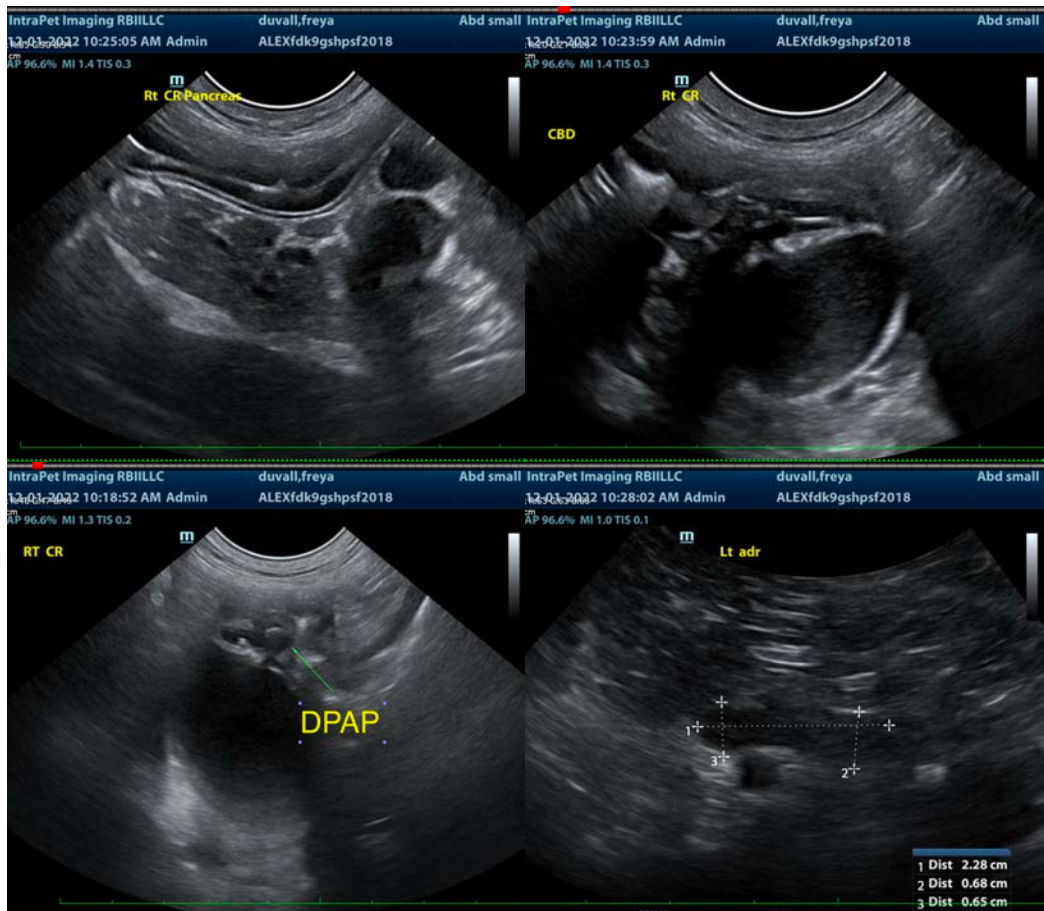
ULTRASONOGRAPHIC FINDINGS

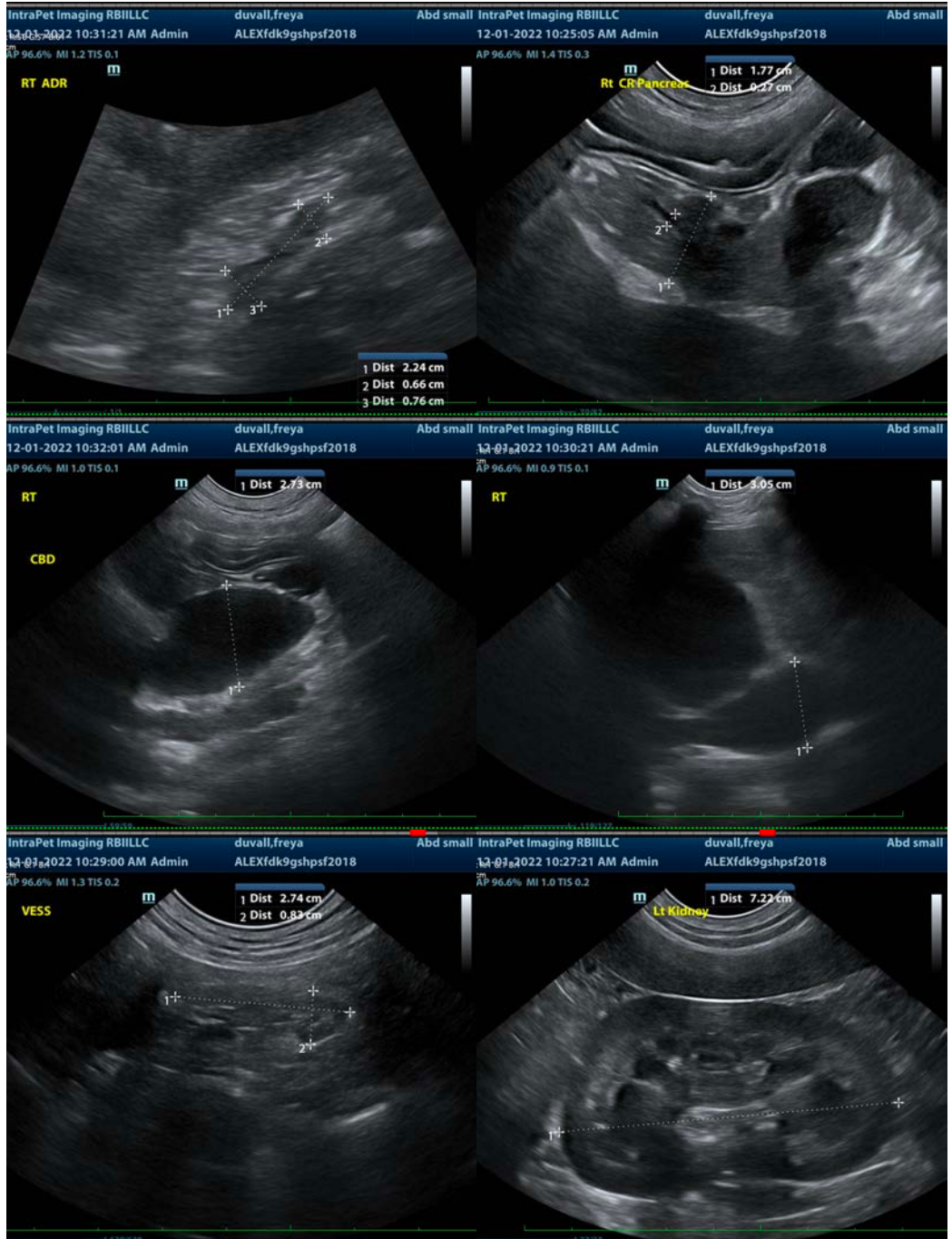
- **Post-hepatic biliary obstruction of unknown cause** – Differentials include a sequelae to acute or resolving pancreatitis combined with a possible stricture at the level of the duodenal papilla. There is no evidence of obstructive mineral, nodules, etc. However, the presence of these cannot be definitively ruled out.
- Acute pancreatitis
- **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 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.
- **Reactive medial iliac lymph nodes** – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

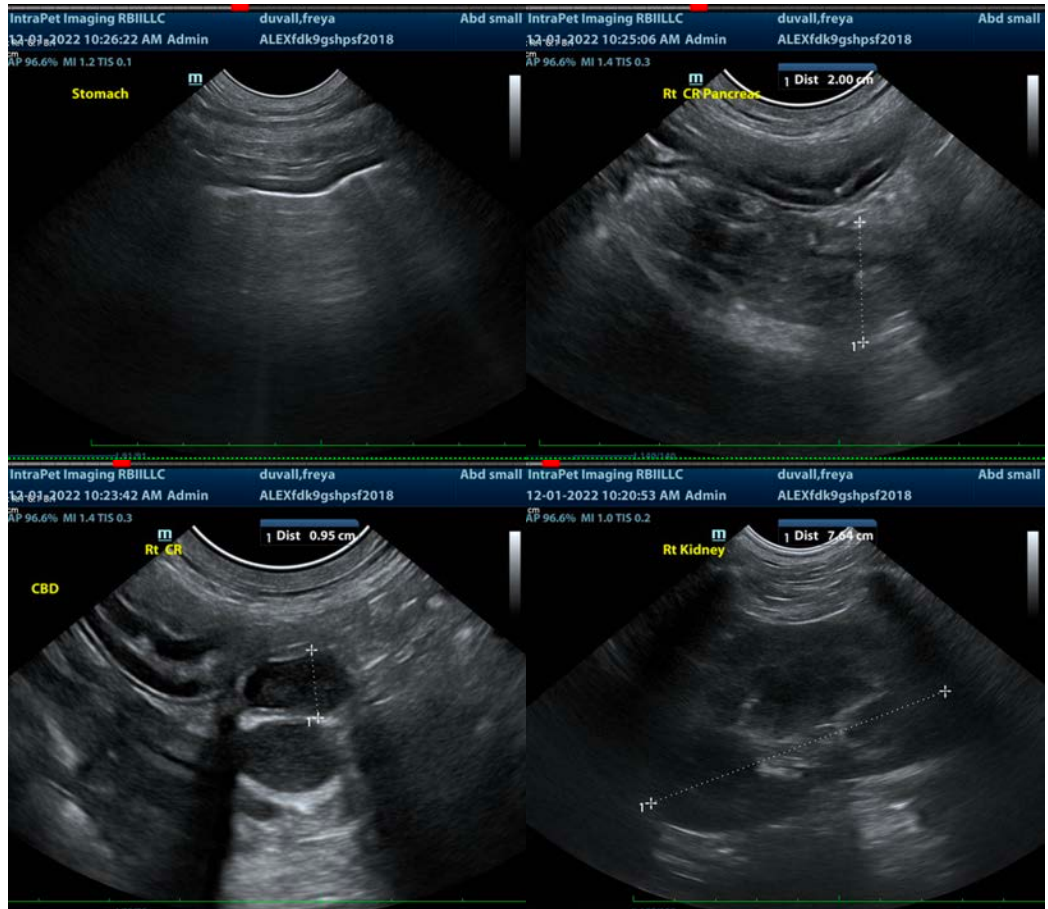
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

An exploratory laparotomy for further evaluation and correction of the post-hepatic biliary obstruction is likely indicated, given this patient's progressively increasing liver enzymes. A liver biopsy, as is reportedly already being performed, is also recommended.

If, given this patient's recent surgery already, a more conservative approach is elected, submission of the liver biopsy is still recommended. However, aggressive medical management of acute pancreatitis with antiemetics, gastroprotectants, appetite stimulants if needed, pain management, broad-spectrum antibiotics, and fluid therapy, as well as (if possible) hyperbaric oxygen therapy could be considered, combined with Sildenafil, which has had some success in medically alleviating biliary obstructions. Close monitoring of the patient clinically as well as the patient's liver enzymes and bilirubin are recommended if the conservative approach is elected to help determine when and if surgery becomes required.







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