IMAGING PERFORMED BY

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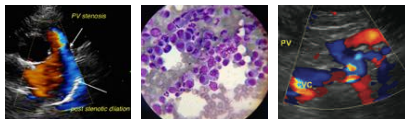

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE
3/22/22

PATIENT
Elliott Wiskman

SPECIES
Feline

BREED
Domestic Shorthair

SEX
Neutered male

AGE
3/19/10

WEIGHT
13 lbs

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

HOSPITAL NAME
Timonium AH

REFERRING VET
Dr. Stephens

INVOICE
96996

PRESENTING CLINICAL SIGNS

Hyporexia/anorexia since 3/16 with vomiting and diarrhea. No recent veterinary history. Still not eating with Cerenia, Visbiome, Mirtaz and Metronidazole.
Current Medications: Will give 100mg Gabapentin.
Radiographs: Intestines appear larger in diameter than normal on radiographs and muscularis appears thickened on in-house brief scan.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Requested.
Imaging Performed By: Andi Parkinson BS, RDMS

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately filled. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra, and there is no evidence of cystoliths, polyps or a mass. A very small amount of sediment is present (settled by gravitation).

The left kidney is at the high end of the normal reference range (4.09 cm). The capsule is smooth. The medulla of the left kidney has a loss of definition, suggestive of inflammation. Very mild pyelectasia (2.0 mm) is present, which is most likely due to intravenous fluid therapy. Minor mineralization is present, without nephrolithiasis.

The right kidney is within normal limits in size (4.12 cm) for the patient's weight. Similar findings are present with the right kidney compared to the left, however, pyelectasia is absent. Systemic inflammation and age-related changes are the likely causes of the abnormalities observed. Although the changes are not classical for pyelonephritis, the latter should not be excluded, nor should infiltrative disease.

Adrenal Glands

The left adrenal gland measures 0.56 cm. No abnormalities are noted in the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The right adrenal gland measures 0.56 cm. No abnormalities are noted in the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is mildly enlarged (11.0 mm), which is probably not clinically significant with all the systemic inflammation. However, it has mildly rounded borders at its head and mildly scalloped borders. It is homogenous; however, its echotexture is not as crisp as one usually likes to see it, therefore, splenitis due to systemic inflammation cannot be excluded. Infiltrative disease, such as a round cell tumor, remains a differential diagnosis.

Liver

Hepatomegaly is noted. The liver is somewhat hypoechoic in certain views. This may be an artifact due to the markedly hyperechoic mesentery surrounding it.

The gallbladder is distended. Two choleliths are present at the neck of the gall bladder. One measured 5.6 mm and the other 7.9 mm.

The gall bladder is filled with a mild to moderate amount of echogenic material, some of which is free floating, as well as sedimented by gravity. There is also sediment adhered to the wall. Different echogenicities are present, some of the echogenic material casts shadows, i.e., multiple choleliths are present.

The cystic duct is dilated and tortuous, measuring 5.3 mm in one view. The walls of the cystic duct and common bile duct are mildly hyperechoic and there is a loss of detail of the mural wall, suggestive of inflammation. The common bile duct is dilated and measures 0.38 cm. The duodenal papilla appears swollen. These signs are suggestive of inflammation. A total obstruction is not evident.

Gastrointestinal

The gastric wall and pylorus are normal in thickness. There is no loss of definition of the normal architecture of the layers of the stomach wall. No obvious abnormalities are observed with its peristalsis.

Thickening of the small intestines is present (0.30 cm and 0.25 cm). Mucosal fogging and fogging of the muscularis are also present. The mucosa is more prominent than usual and the muscularis is thickened. The colonic wall is not thickened and mural detail is considered normal. There are no obvious signs of a mass, foreign body, or an obstruction.

Pancreas

Left limb: The left limb of the pancreas is severely hypoechoic with scalloped edges and the surrounding mesentery is markedly hyperechoic. The edema is associated with pancreatitis. A hypoechoic, well-defined nodule is present within the mesentery surrounding the left pancreas. The second nodule is similar in size and is also observed in the surrounding mesentery.

Right limb: The right limb of the pancreas is also hypoechoic. It is not as enlarged or edematous as the left limb, but it is still hypoechoic and the surrounding mesentery is markedly hyperechoic.

Other

Lymph nodes: No abnormalities are observed.

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

Very severe pancreatitis is suspected. A component of the changes observed with the cystic and common bile ducts are likely secondary to the pancreatitis. However, a component of a partial extrahepatic bile duct obstruction due to the choleliths is suspected. Cholecystitis is also suspected.

The changes observed with the intestinal tract may be due to inflammation associated to inflammatory bowel disease; however, early lymphoma cannot be excluded.

The hepatic changes may be due to hepatic lipidosis, as well as cholangitis/cholangiohepatitis. The diffuse hypoechogenicity may be due to lymphoma, however, I cannot exclude the possibility of artifact caused by the hyperechoic mesentery surrounding it; which is why I cannot exclude hepatic lipidosis, cholangitis/cholangiohepatitis.

The splenic changes may be due to systemic inflammation. However, infiltrative disease due to lymphoma cannot be excluded.

Degenerative changes associated with age are likely contributing to the renal changes; however, systemic inflammation is probably also present. The pyelectasia observed with the left kidney is likely due to intravenous fluid therapy and is not considered clinically significant. As mentioned above the kidneys being at the high end of normal reference range to mildly enlarged may be due to systemic inflammation. However, pyelonephritis and infiltrative disease cannot be excluded.

The mild amount of debris in the urinary bladder is likely clinically insignificant given the lack of inflammatory changes to bladder wall. However, a urinalysis is suggested, +/- a urine culture depending on the urinalysis results.

The two nodules in the mesentery in the region of the left pancreas may be due to nodular hyperplasia. Carcinomatosis or lymphomatosis cannot be excluded.

*Please note, the fact that Elliott began eating following administration of gabapentin is very encouraging that the above changes are secondary to pancreatitis and secondary inflammation, IBD, cholangitis/cholangiohepatitis with a secondary infection and possible secondary hepatic lipidosis, rather than a neoplastic process.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

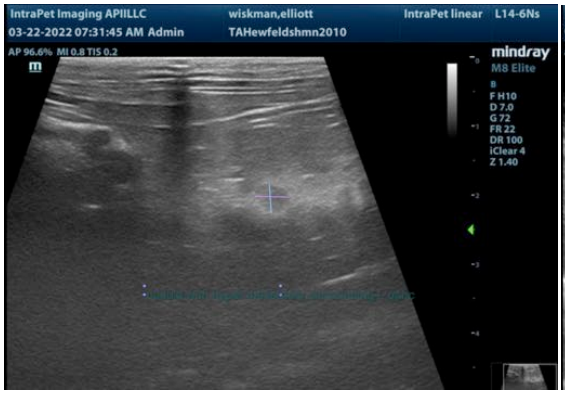
Since Elliott's improvement following administration of gabapentin, treatment with for acute pancreatitis, cholangitis/cholangiohepatitis and a secondary bacterial infection is recommended.

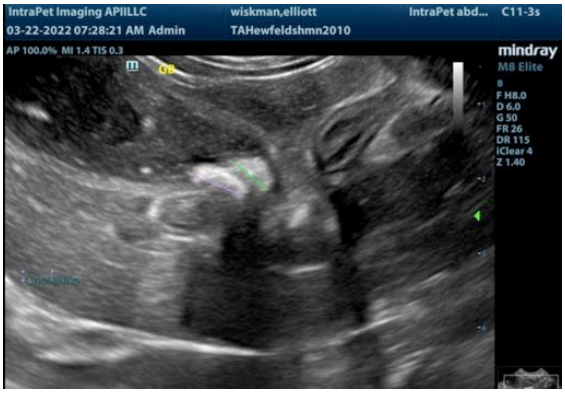
Treatment with enrofloxacin IV, ampicillin IV, buprenorphine IV q 8 hours and gabapentin. Sequential reevaluations of the cystic duct and common bile ducts are recommended to ensure that Elliott does not develop a complete extrahepatic bile duct obstruction, which would require exploratory surgery.

If further diagnostics are not pursued and little to no improvement is observed within 12-24 hours, dexamethasone at a dose of 0.03 mg/kg IV may be administered.

An injection of vitamin K at 0.5 mg/kg subcutaneous followed 20 - 30 minutes by FNA of the liver, spleen and potentially kidneys would be ideal.

If surgery is pursued, FNA of all the organs with impression smears should be performed STAT (in house) to ensure that neoplasia, such as lymphoma, is not the cause of the changes noted with the other organs. The latter should be performed prior to pursuing treatment of an extrahepatic bile duct obstruction.





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CBD
1 Dist 0.38 cm
mindray
M8 Elite

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Liver
Tortuous cystic duct
GB with sludge
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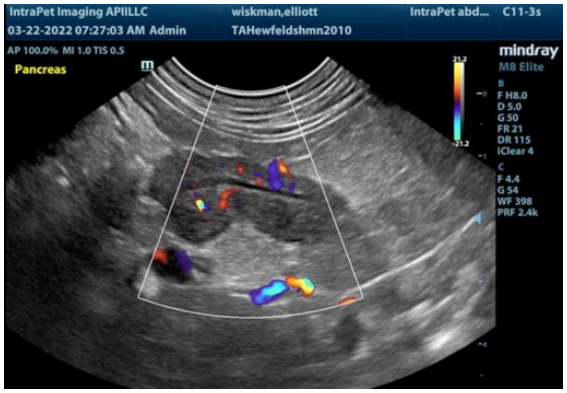
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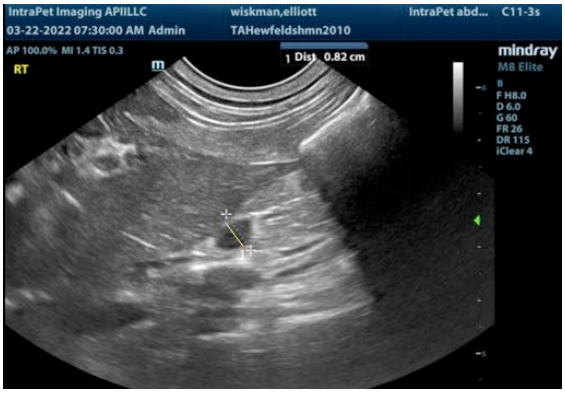
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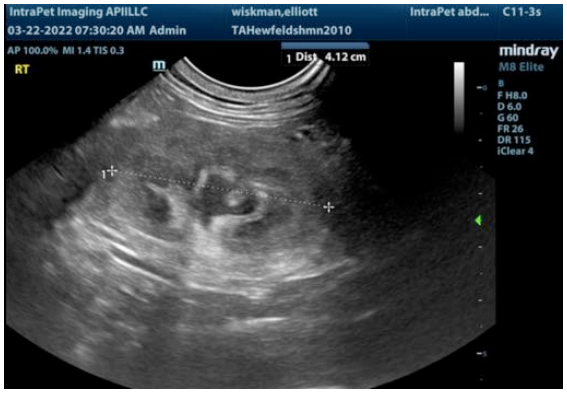
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1 Dist 4.12 cm
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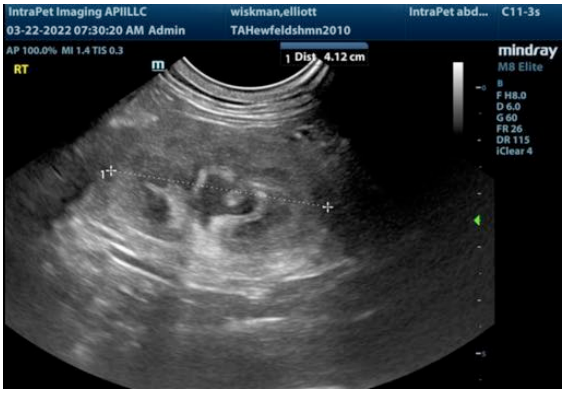
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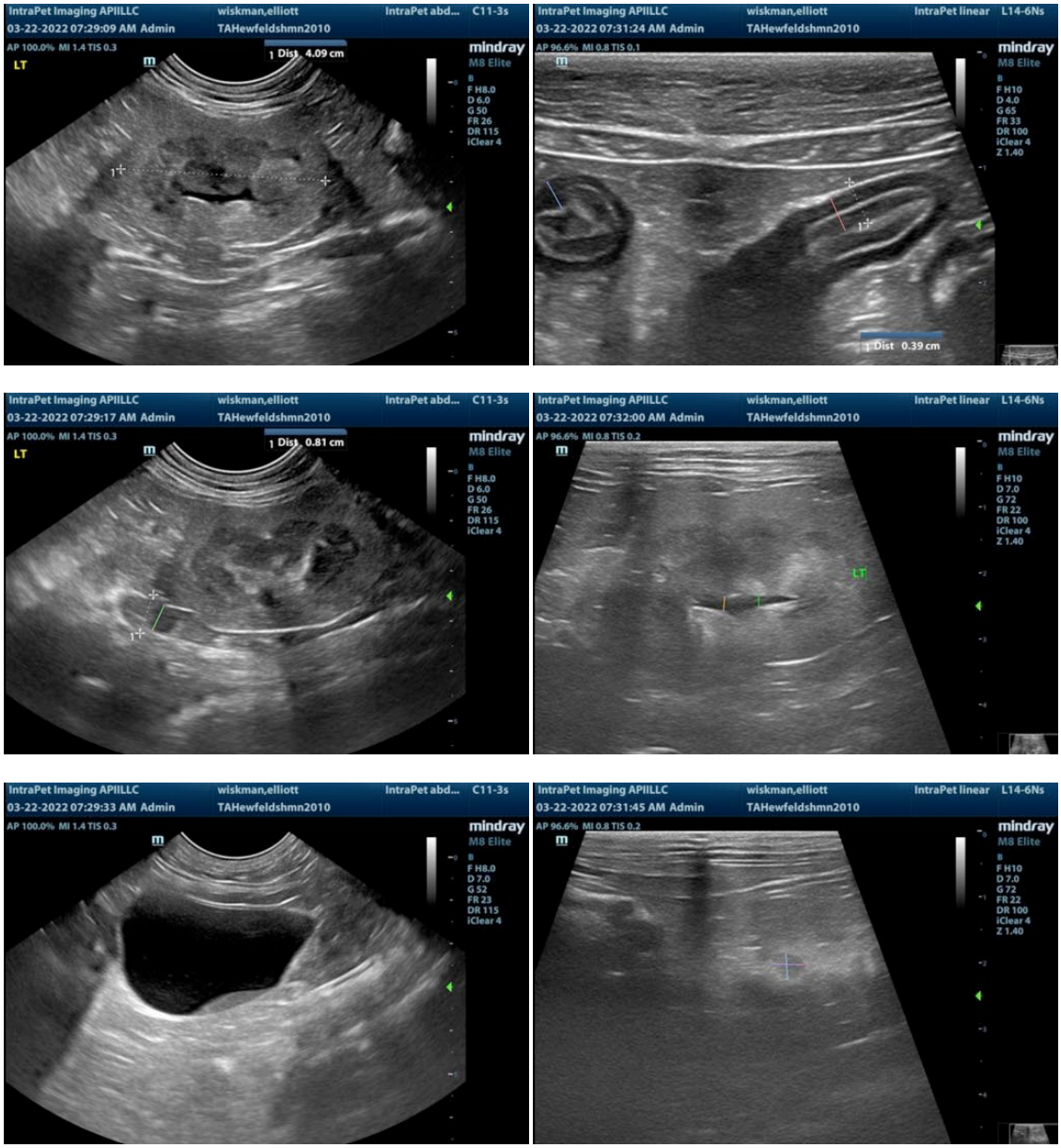

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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