



PATIENT

Bandit Neubauer

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

10 Years

WEIGHT

4.3 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Laura de Cordon

HOSPITAL NAME

Mason Dixon Animal
Emergency Hospital

REFERRING VET

Dr. Laura de Cordon

INVOICE

39306

DATE

7/8/22

PRESENTING CLINICAL SIGNS

Missing for 5 days and returned jaundice and weak. Refusing food. Abnormal PE/Chem/CBC/UA Results: Azotemia. Hypocalcemia. Elevated ALT, AST, and GGT. Hyperbilirubinemia. Elevated MG. Elevated amylase. Pancreatitis.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is moderately distended. It has a normal uniform wall thickness (<0.2 cm). Contents include primarily anechoic fluid combined with suspended echogenic non-shadowing debris within the fluid. 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 (3.54 cm) and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (3.67 cm) and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is unable to be visualized.

The left adrenal gland is uniformly plump and egg-shaped (left measures 0.56 cm), and hypoechoic in echogenicity. This is most likely a benign age-related change. This change can be caused by chronic stress/disease, so investigation for/management of other disease (chronic kidney disease, hyperthyroidism, etc.) is recommended.

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 markedly distended with a thick, irregular, hyperechoic wall. Debris, sludge, and shadowing choleliths are noted within the lumen of the gallbladder. The cystic duct and common bile duct remain markedly dilated as far out as they can be followed, with intraluminal mineral noted within the ducts as well.

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 mildly distended with echogenic non-shadowing luminal contents and gas consistent



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with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

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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.

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Pancreas

The pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and has a mildly irregular undulating contour. Parenchyma is coarse with mixed echogenic remodeling noted. Pancreatic duct dilation is noted.

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Free Abdomen

In the cranial abdomen, free fluid and markedly hyperechoic enhanced fat and mesentery are noted around the pancreas and around the biliary system.

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There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

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- Markedly distended gallbladder and cystic and common bile duct – most concerning for a post-hepatic obstruction, potentially caused by a cholecystolith. However, sludge, debris, a mass, or even the inflamed pancreas cannot be ruled out as a source of the obstruction.

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- Severe acute pancreatitis

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- 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.

SECONDARY FINDINGS

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- Urinary bladder sediment – Urine changes are most consistent with incidental suspended lipid in a cat, however, cellular debris or crystalluria cannot be ruled out and should be interpreted in combination with urinalysis results.

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- Age related kidney change – This finding is expected/consistent with age-related mild degenerative disease and should be interpreted clinically in combination with laboratory changes.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Ultimately, there is enough of a concern for a post-hepatic biliary obstruction to warrant surgical intervention to alleviate the obstruction and reroute the biliary tract, as indicated. However, given the concurrent severe acute pancreatitis and the reported metabolic instability of the patient, a more conservative approach could include aggressive medical management of pancreatitis and cholangiohepatitis with antiemetics, gastroprotectants, appetite stimulants, or a feeding tube placement if necessary, pain management, broad-spectrum antibiotics, and fluid therapy.

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Close monitoring of the biliary system and the pancreas as well as the laboratory changes including total bilirubin is recommended if the conservative approach is elected, so that if progression develops, surgical intervention can be pursued.

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If surgery is elected, biopsies of the gastrointestinal tract are also recommended, given the evidence of infiltrative disease.

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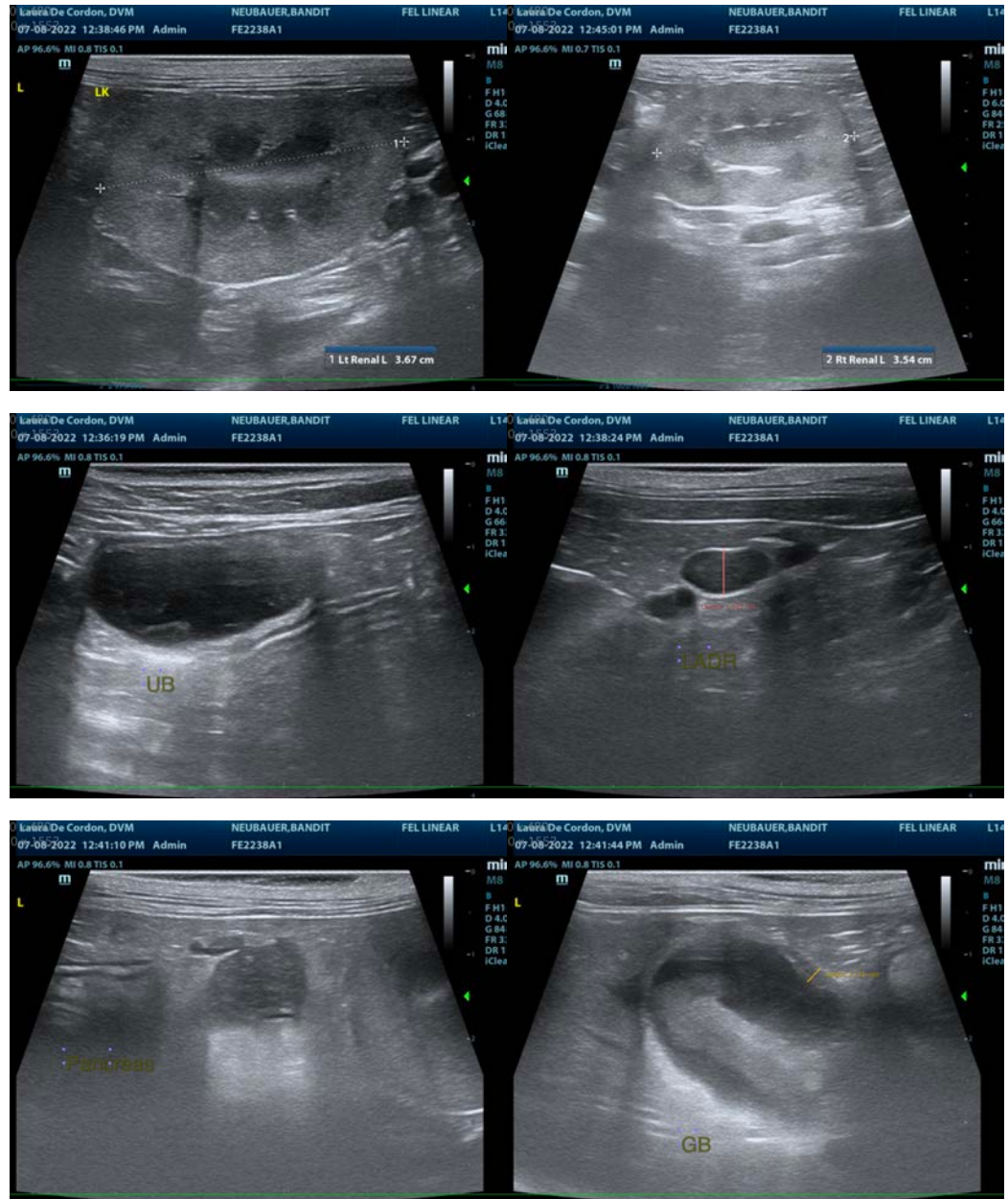
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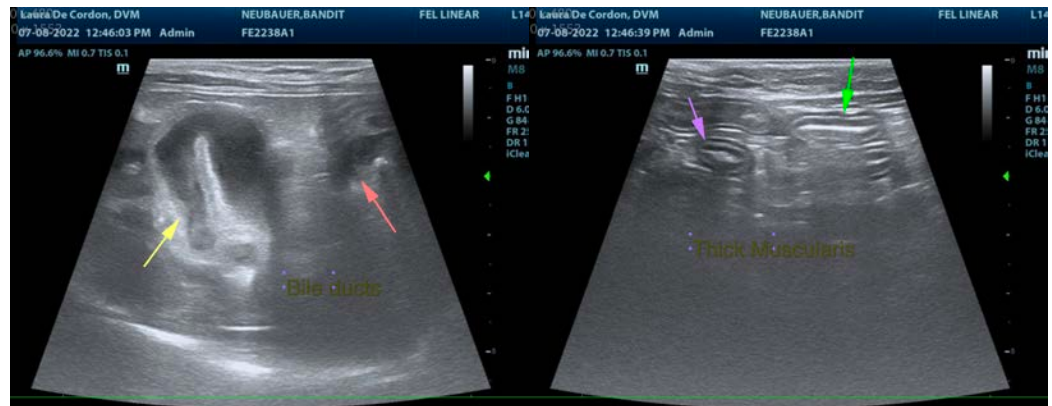
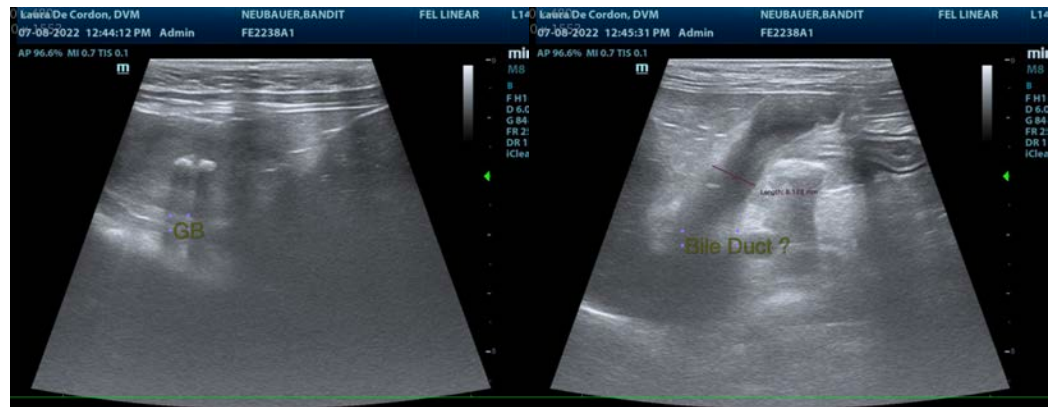
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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