

**DATE**

2/15/22

**PRESENTING CLINICAL SIGNS**

History: Lameness, elevated LFT.

Current Medications: Galliprant 60mg 1 PO QD.

Lab Results: CBC/Chem- more significant elevation of ALP and ALT. Infectious v inflammatory vs neoplastic.

Attached separately.

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Rachel Brilhart, RDMS.

**PATIENT**

Clifford Long

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Intact male

**AGE**

7/3/11

**WEIGHT**

58.2 lbs

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM**HOSPITAL NAME**

Festival VC

**REFERRING VET**

Dr. Harvey

**INVOICE**

96086

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

Urinary bladder is moderately distended with anechoic contents. It has normal uniform wall thickness (&lt; 0.2 cm). No masses or cystoliths are observed.

Prostate (intact) is normal in size for an intact male. It has a normal homogenous echotexture and is hyperechoic in echogenicity, normal for intact male. There are no significant findings associated with the testicles.

Left kidney is normal in size (6.47 cm), shape and echogenicity. It has smooth peripheral margination and appropriate corticomedullary distinction. There is no pyelectasia noted. No mineral is observed.

Right kidney is normal in size (6.6 cm), shape and echogenicity. It has smooth peripheral margination and appropriate corticomedullary distinction. There is no pyelectasia noted. No mineral is observed.

**Adrenal Glands**

Left adrenal gland is normal in size (3.16 cm long x 0.67 cm at the cranial pole and 0.64 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable.

Right adrenal gland is normal in size (3.03 cm long x 0.72 cm at the cranial pole and 0.84 cm at caudal pole), shape and contour. Corticomedullary structure is unremarkable.

**Spleen**

Spleen is subjectively normal in size with normal smooth margins. Parenchyma is normal in echogenicity and echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

**Liver**

Liver is subjectively normal in size. Margins are sharp and smooth. It has normal homogenous echotexture and normal echogenicity. Visible vasculature appears normal. The caudal right liver is subjectively enlarged with rounded margins. The parenchyma is heterogenous and characterized by multiple, poorly defined, hypoechoic nodules in an otherwise, hyperechoic liver parenchymal. Just caudal to the gallbladder there is an anechoic structure surrounded by thick, irregular, hyperechoic tissue with the entire structure measuring 3.26 x 2.89 cm. The cavitated/cystic lumen of the structure appears to contain mineral. GB is moderately distended with anechoic bile and gravity dependent echogenic sediment. The wall is smooth without visible thickening. Bile duct dilation is considered possible (see below differentials for nodule/mass).

### ***Gastrointestinal***

The visible gastric wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm). The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The small intestines are normal in wall thickness and layering except the muscularis is diffusely thick relative to other areas. Small intestinal motility appears adequate (1-3 contractions per min). There are no luminal contents noted within small intestines.

Colon is normal in wall thickness (< 0.2 cm) and layering.

### ***Pancreas***

Pancreas is visible in these images. It appears heterogenous and mottled. Overall hypoechoic to surrounding tissue was noted. The visible capsule is smooth and normal in contour. The pancreatic duct dilation is noted and measured 0.28 cm dilated. There is no evidence of active peri-pancreatic inflammation.

### ***Free Abdomen***

Lymph nodes are normal with no observed enlargement.

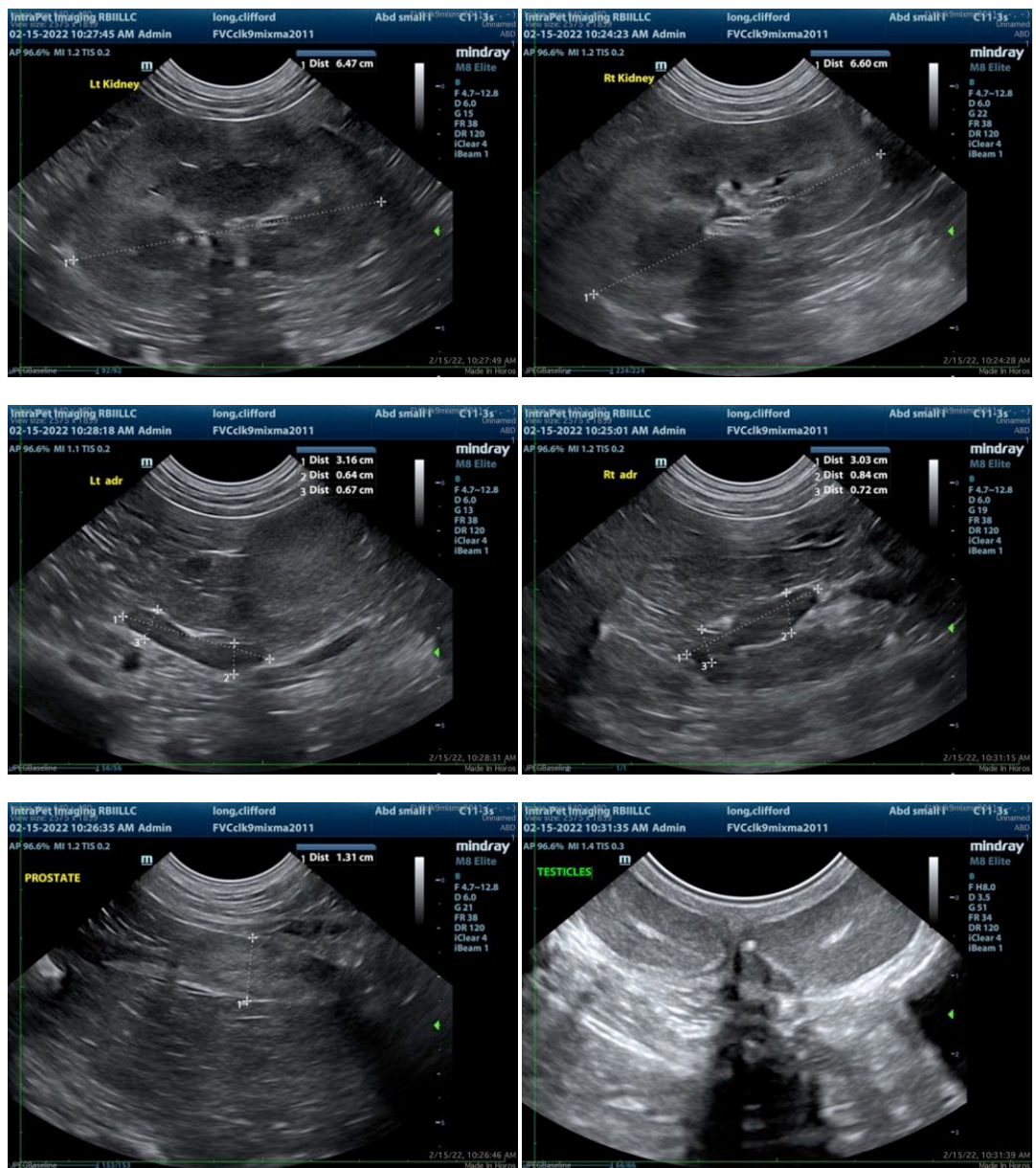
## **ULTRASONOGRAPHIC FINDINGS**

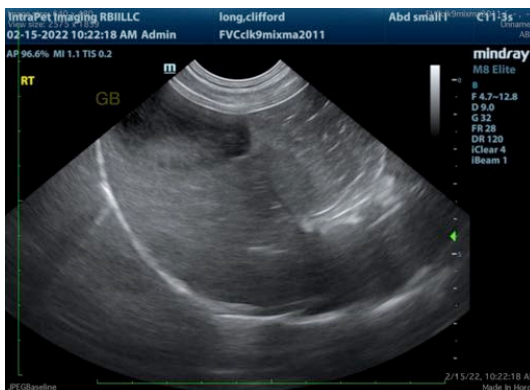
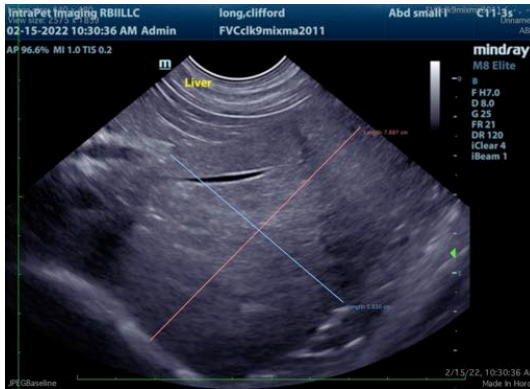
- A rounded, heterogenous appearance to the caudal right liver. Differentials for which include hepatitis/cholangiohepatitis or other inflammatory or reactive change versus infiltrative round cell or metastatic neoplasia all of which have to be considered. A hyperechoic liver nodule is noted near the gallbladder with an anechoic/cavitated center and mineral within the center. Rule outs for which include a benign change such as hepatic abscess or a complicated cyst as well as infiltrative neoplasia. The difference between which cannot be determined with ultrasound alone. Given the location and appearance of this lesion the possibility also exists that it is a thick, hyperechoic walled part of the biliary system with a dilated lumen that contained biliary sludge, mineral and debris. However, the lesion cannot be definitively traced to the gallbladder or common bile duct.
- Gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.
- Pancreatic changes consistent with chronic smoldering pancreatitis versus normal patient variant.
- Thick muscularis relative to the other layers. This finding is suggestive of infiltrative bowel disease which can be seen with benign inflammatory disease as well as infiltrative neoplasia such as lymphoma.

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Recommendations for this patient given the bowel and pancreatic changes include a gastrointestinal malabsorption panel to include TLI, PLI, folate and cobalamin to Texas A&M GI laboratory for further assessment of the GI tract and pancreas. A total bilirubin level is also recommended if not recently evaluated.

A FNA of the solid component of the described liver nodule is recommended if the patient's coagulation status is appropriate. A second FNA is recommended of the caudal right liver. In the meantime, especially if the bilirubin is high, recommendations include medical management of cholangitis/cholangiohepatitis/mild pancreatitis with IV fluids, antiemetics, gastroprotectants, broad spectrum antibiotics as well as pain management if necessary and appetite stimulant if necessary while closely monitoring total bilirubin and other liver enzymes for improvement. If a FNA does not come back diagnostic and liver enzymes, especially total bilirubin do not improve with medical management, surgical exploratory is recommended for excisional biopsy/mass removal as well as liver biopsy and gastrointestinal tract biopsies.







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.

**Beth Johnson, DVM DACVIM**

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