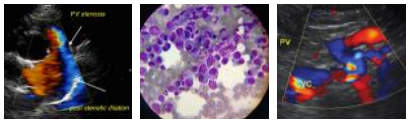
IMAGING PERFORMED BY

IntraPet.com



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**DATE**
7/29/22

**PATIENT**
Red Buchanan

**SPECIES**
Canine

**BREED**
Basset Hound Mix

**SEX**
Neutered Male

**AGE**
3/22/08

**WEIGHT**
62.1 Pounds

**INTERPRETED BY**
Beth Johnson, DVM DACVIM

**HOSPITAL NAME**
Animal Emergency Hospital

**REFERRING VET**
Dr. Nacke-Horney

**INVOICE**
16593

## PRESENTING CLINICAL SIGNS

History: For the past few days: eating smaller amounts intermittently, pacing like he can't get comfortable, Diarrhea started yesterday morning - this AM: started with a bit of blood in it When owner got home later today found multiple areas of diarrhea and vomit - has been eating grass, was found in vomit Did have an episode of vomit on the way in Owner noted that patient used to weigh around 86# last time he was here

Current Medications: Buprenorphine, Unasyn, Metronidazole, Dextrose,, Baytril, Protonix, Cerenia.
Lab Results: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

Urinary bladder is only mildly distended (empty) with a Foley catheter in place. Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface. If there are urinary signs and/or concern for urinary bladder pathology, reassessment after complete filling is recommended.

Prostate (neutered) is normal in size, echotexture and echogenicity for a neutered male.

Left kidney is normal is size (7.43 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.

Right kidney is normal is size (6.45 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*

Adrenal glands are mildly increased in size but largely normal in shape and contour. Some parenchymal heterogenicity is present without concerning capsular distortion. These changes are likely normal for this age but should be monitored if there is any suspicion of adrenal disease. The left adrenal gland measures 2.8 cm in length x 0.99 cm at the cranial pole and 1.16 cm at the caudal pole. The right adrenal gland measures 2.9 cm in length x 1.39 cm at the cranial pole and 1.16 cm at the caudal pole.

### *Spleen*

Spleen is generally normal in size and shape with a smooth capsular contour. Parenchyma is diffusely nodular in appearance characterized by small discrete hypoechoic nodules. Splenic vasculature appears normal.

### *Liver*

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion. In the left caudal liver, there is a 3.0 cm in diameter slightly heterogenous iso- to hypoechoic vascular mass.

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 visible stomach wall is normal in thickness 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. 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 and layering. Contents are consistent with normal formed feces and gas.

### *Pancreas*

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### *Free Abdomen*

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy. A large number of ring downs/comet tails are noted at the level of the diaphragm.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

- Heterogenous Liver-These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia. A discreet focal mass was present in the left caudal liver, concerning for infiltrative neoplasia, such as hepatocellular carcinoma, given the reported hypoglycemia, as hepatocellular carcinomas can mimic insulinomas. However, benign hepatomas/adenoma, nodular hyperplasia, etc. cannot be ruled out without tissue sampling.

- Ring downs at the level of the diaphragm, suggestive of concurrent pulmonary pathology.

### Secondary Findings

- Splenic micronodular hyperplasia – This nodular change is often associated with benign aging nodular hyperplasia. Infiltrative neoplasia, however, including both early hemangiosarcoma as well as round cell neoplasia cannot be ruled out.

- Age-related adrenal glands changes

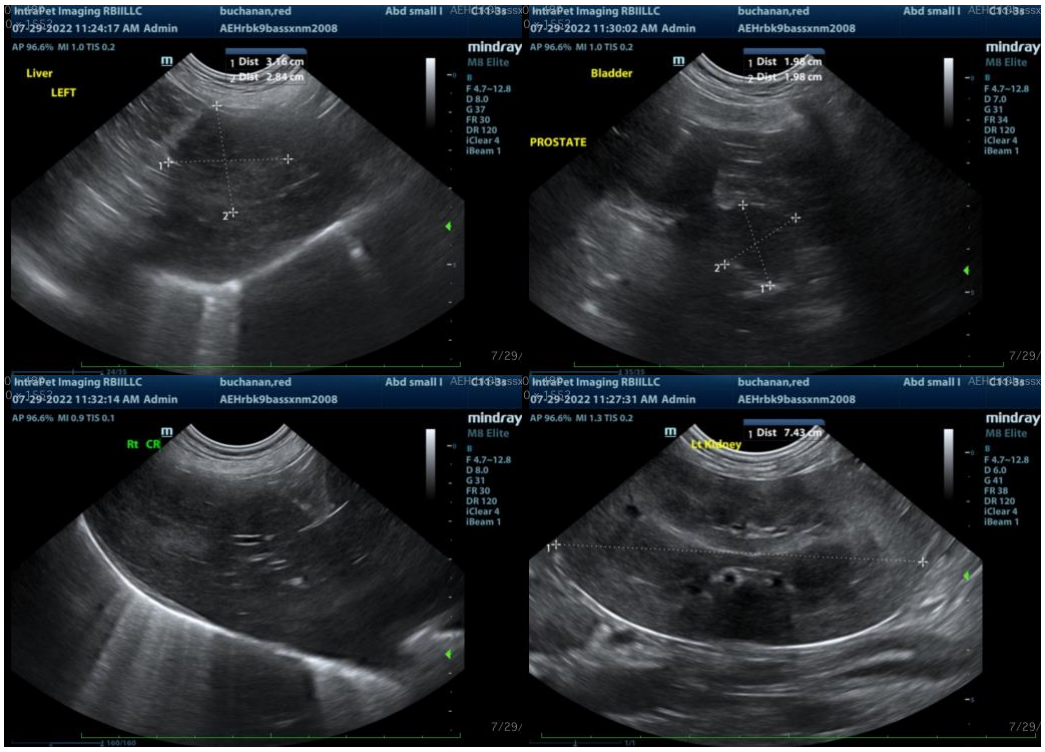
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

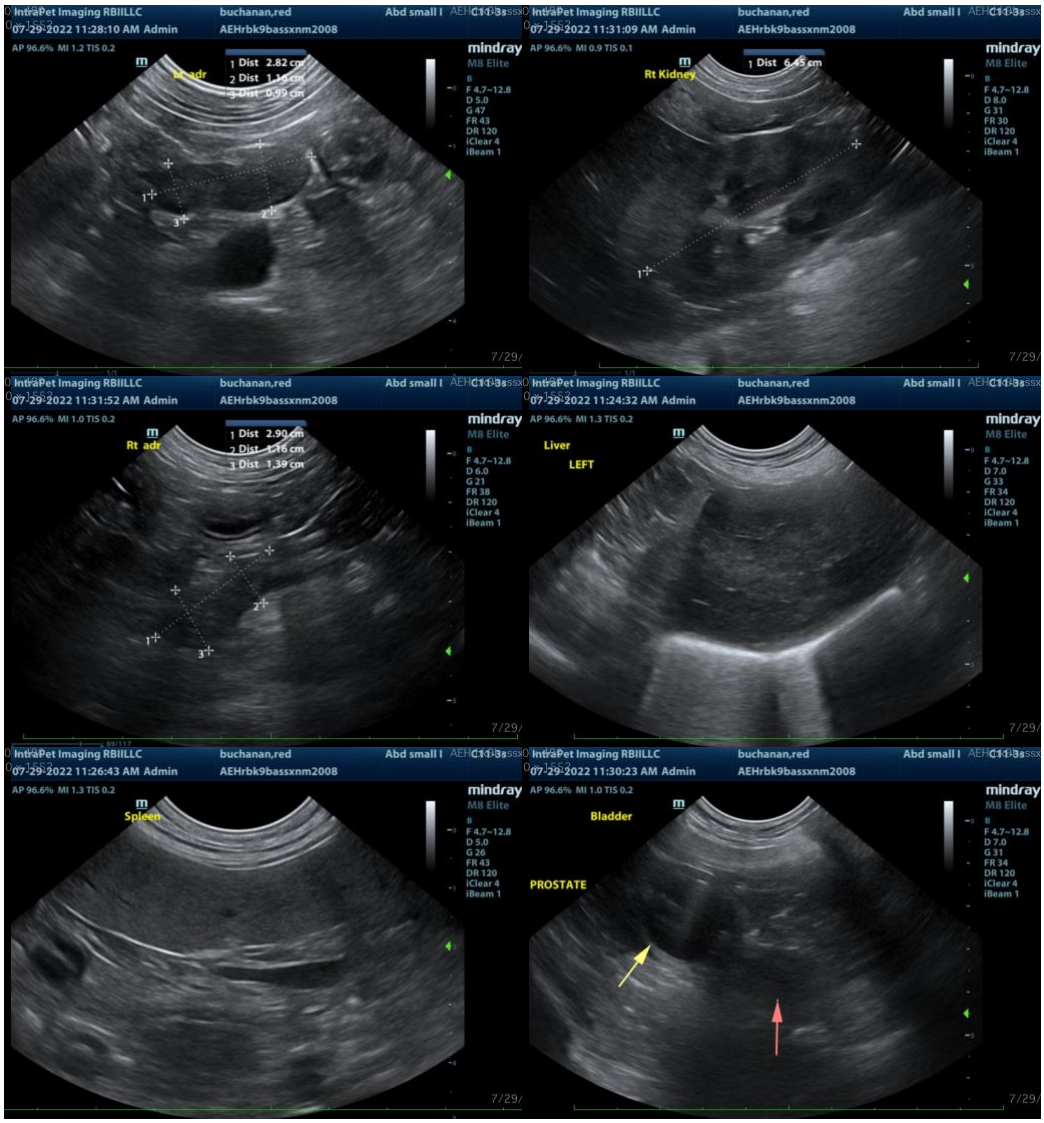
Given this patients reported hypoglycemia and the presence of the liver mass, a hepatocellular carcinoma is a differential and recommendations include a fine needle aspirate of the liver mass, if patients coagulation status is appropriate.

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Given this patients reported GI signs, other differentials for the hypoglycemia include potential sepsis, secondary to bacterial translocation, hypoadrenocorticism, insulinoma, less likely decreased liver function. Therefore, other diagnostic recommendations to consider include 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. A baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism. Bile acids are recommended, if not recently evaluated, as well as an insulin level drawn at a time when the glucose is <50 for a paired insulin to glucose ratio.

In the meantime, aggressive medical management of gastroenteritis/hemorrhagic gastroenteritis with symptomatic supportive GI care, including potential shock doses of fluid support (if indicated), as well as broad spectrum four quadrant antibiotic coverage given the possibility of bacterial translocation is recommended. Empirical deworming with a 5-day course of Panacur is also recommended, if not recently evaluated.






**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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