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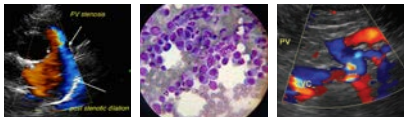
IntraPet.com



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**DATE**

7/12/22

**PATIENT**

Fozzie Bear Guyer

**SPECIES**

Canine

**BREED**

Pomeranian

**SEX**

Neutered Male

**AGE**

5/20/10

**WEIGHT**

7.2 Pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**

Rachel Brilhart RDMS

**HOSPITAL NAME**

Animal Emergency Hospital

**REFERRING VET**

Dr. Martinoli

**INVOICE**

39422

## PRESENTING CLINICAL SIGNS

About 2 weeks was seen at rDVM for poor appetite, vomiting, and watery diarrhea. Liver values elevated. Admitted to hospital for a few days; started eating better and was discharged prior to 4th of July holiday weekend since no staff at hospital full time and owner was able to monitor at home. Diarrhea had resolved but has never resumed eating normally again. Bloodwork rechecked the end of last week; liver enzymes still elevated. 2-3 days ago diarrhea started again. Referred for AUS and continued care. History of chronic pulmonary hypertension

Current Medications: Cerenia, Metronidazole, Famotidine, Ondansetron, Buprenorphine.
Lab Results: 6/27: ALT 1866, AST 124, ALP 1821, GGT 126 tBILI 0.5 CHOL 405. 7/1: ALT 1117, AST 219, ALP 2472, GGT 135, tBILI 0.4, CHOL 418. 7/8: ALT 1271, AST 293, ALP 2410, GGT 189, tBILI 0.2, CHOL 550, BUN 36, Alb 2.6.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

Urinary bladder is mildly to moderately distended with anechoic contents. Apical urinary bladder wall is diffusely thick (0.34 cm). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

The prostate is mildly enlarged. Parenchyma is diffusely homogenous and relatively hyperechoic. Normal distinct margins and symmetrical bilobed shape are maintained. This finding is likely normal patient variant, especially if patient was neutered as an adult; however, if patient was neutered as a puppy, prostatitis or, less likely, infiltrative neoplasia cannot be ruled out. This finding should be interpreted in combination with clinical signs, urinalysis results, etc. and either further investigated or monitored, as indicated.

The right kidney is normal in size (3.06 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 (3.16 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 normal in size (1.42 cm long x 0.51 cm at the cranial pole and 0.54 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (1.78 cm long x 0.60 cm at the cranial pole and 0.58 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

### *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*
Liver is subjectively enlarged. Margins are smooth but round. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as mild suspended and gravity dependent echogenic debris. The wall is mildly thick, hyperechoic and irregular with polypoid changes. Polypoid tissue in dogs is most often benign, however, given the vascularity, infiltrative neoplasia is suspected here. There is no evidence of effusion or inflammation. The cystic and common bile duct are mildly distended and tortuous, measuring 0.50 cm thick without an obvious post-hepatic obstructive cause noted in these images.

### *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 pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### *Free Abdomen*
There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

## PRIMARY FINDINGS

- Hyperechoic hepatomegaly – This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.

- Suspect infiltrative gallbladder neoplasia based on polyp vascularity. Benign gallbladder polypoid hyperplasia is much more common and cannot be ruled out but typically does not demonstrate power doppler like neoplasia. Concurrent cholecystic debris of unknown clinical significance.

## SECONDARY FINDINGS

- Chronic Cystitis – Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.

- Mild prostatomegaly

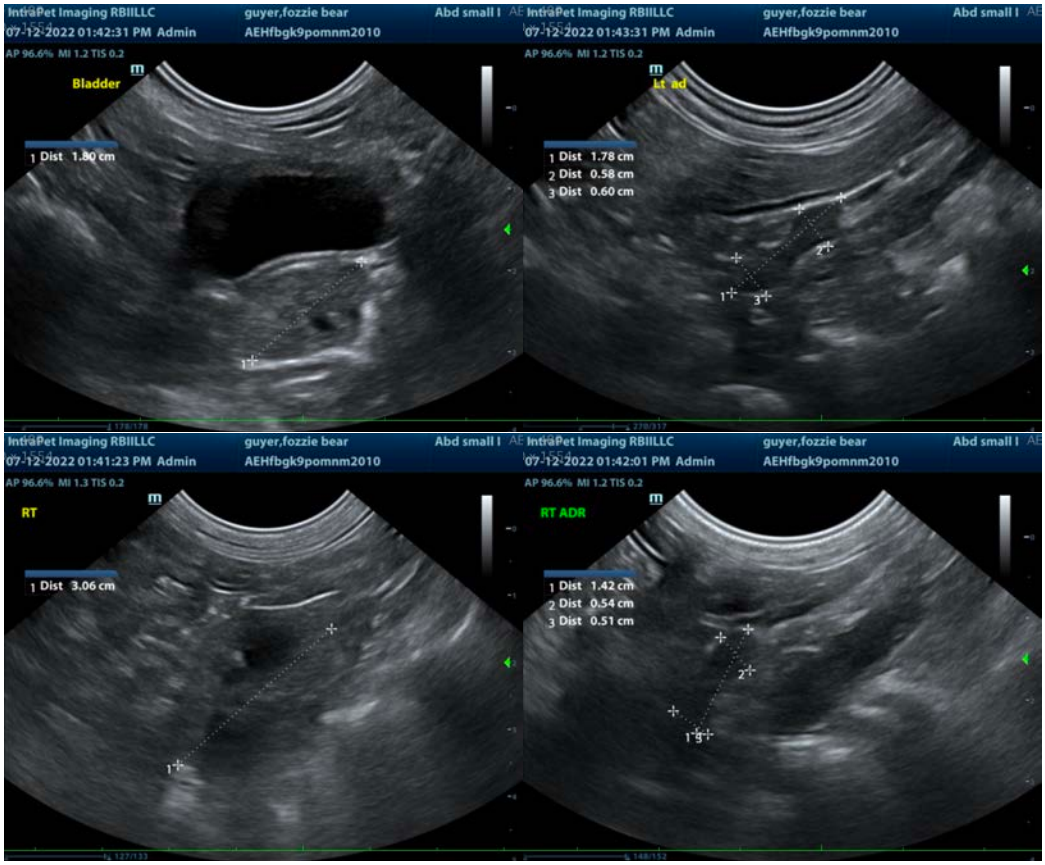
- Age related kidney changes

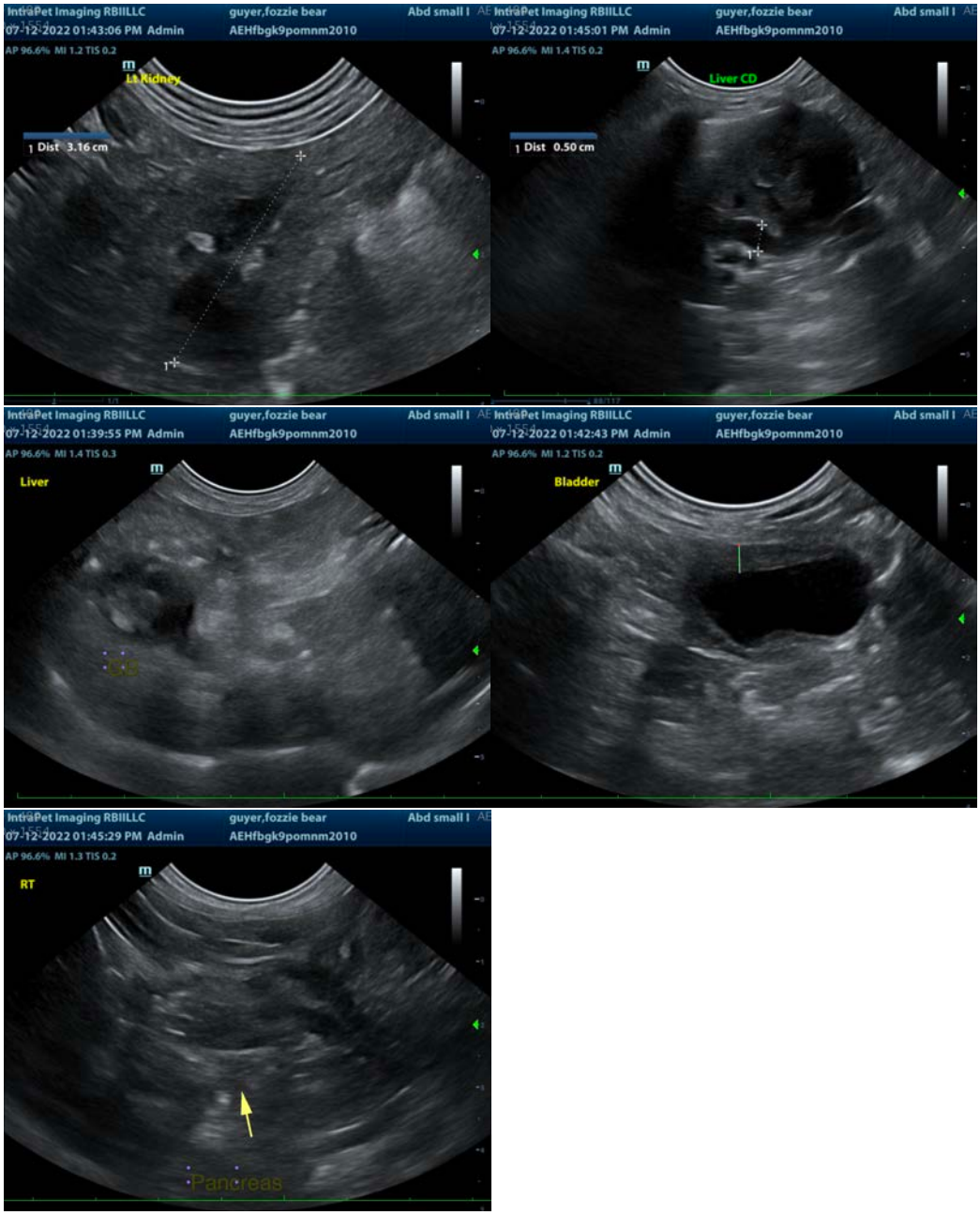
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the biliary changes here, a conservative approach could be to add broad-spectrum antibiotics to the treatment plan reportedly in place, with monitoring of liver enzymes for improvement in addition to testing for Leptospirosis. Bile acids are recommended, if tbili is not increased. An empirical course of antibiotics and hepatic nutraceuticals may be tried empirically; however, ultimately, tissue sampling is likely warranted. FNA of the liver can be performed to assess inflammatory cell type, rule in/out round cell neoplasia, etc. given the marked liver enzyme increase; however, given the concern for infiltrative GB neoplasia, a surgical liver biopsy and cholecystectomy may be warranted.

- 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.

- Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.






**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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