

**DATE PRESENTING CLINICAL SIGNS**

1/13/23

**PATIENT**

Belle Kreh

**SPECIES**

Canine

**BREED**

Boxer

**SEX**

Spayed Female

**AGE**

6/12/13

**WEIGHT**

60.2 Pounds

**INTERPRETED BY**

Kathleen Sennello DVM,  
MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

**HOSPITAL NAME**

Animal Emergency  
Hospital

**REFERRING VET**

Dr. Saubier

**INVOICE**

20545

History: Over the last week owner has noted blood tinge on vulva - wiping her after she goes to bathroom. Has had multiple accident in house - urinated on carpet. Appetite has been decreased and this morning refused to eat. No vomiting or diarrhea. Per owner still energetic. Seen rDVM Monday 1/9 - BW back today 1/10 Chemistry BUN 59 CREA 2.2 ALT 2091 ALP 1945 AST 876 Amylase 2281 CBC PCV 32% RETICS low 23 4DX - Negative UA - active SG 1.021 4+ Protein Ph >9 WBC 6-10 Marked rods and cocci Ammonium phosphate crystals Lepto testing was added on and is pending. Was vaccinated for Lepto in 2017

Current Medications: Gabapentin, amoxicillin, omeprazole, maropitant, denamarin, benazapril

Lab Results: See attached.

Radiographs: Stomach contains small amount of ingesta, gas in colon. No visible stones in urinary bladder. Spondylosis evident.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

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

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2.0 cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney is normal in size and appearance (6.4 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal. There is mild pyelectasia (0.2 cm). There is a cortical cyst visualized, measuring 0.77 cm.

The right kidney is normal in size and appearance, measuring 6.69 cm. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal. There are cortical cysts present, the largest of which measures 0.6 cm. There is pyelectasia noted, measuring 0.44 cm.

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.74 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.71 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**Spleen**

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

### ***Liver***

The liver is subjectively large in size, and irregular in shape. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a large mixed echogenicity, slightly cystic/cavitated mass effect visualized on the right side of the liver, measuring 6.93 cm x 5.82 cm. This mass effect is surrounded by hyperechoic mesentery and a small amount of free fluid. In the left side of the liver, there is hypoechoic solid mass effect, measuring 4.49 cm x 4.22 cm and a small hypoechoic nodule is visualized in this region as well, measuring 1.85 cm in diameter.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

### ***Gastrointestinal***

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (0.41 cm in wall thickness), and the jejunum measured as normal (0.37 cm). Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

### ***Pancreas***

The pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

### ***Free Abdomen***

There is a small amount of free abdominal fluid. No lymphadenopathy noted. The omentum is hyperechoic surrounding the right sided liver mass.

### ***Other***

A brief view of the heart was submitted. No pericardial effusion was seen.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings**

- Heterogenous irregular liver with a large mixed echogenicity cavitated/cystic mass lesion and a hypoechoic solid mass lesion. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The mass effect visualized on the right side of the liver appears inflamed. The cavitations could represent necrosis, infection or merely be cystic lesions. The mass lesion on the left (solid, hypoechoic) does not appear inflamed and has a less aggressive appearance. This could be a benign or a neoplastic lesion.

- Bilateral pyelectasia in both kidneys with small cortical cysts. Pyelectasia of the kidneys could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

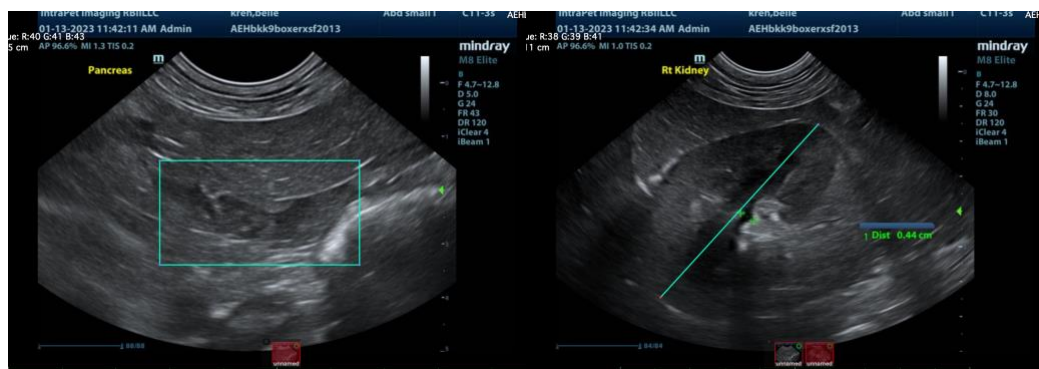
### Secondary Findings

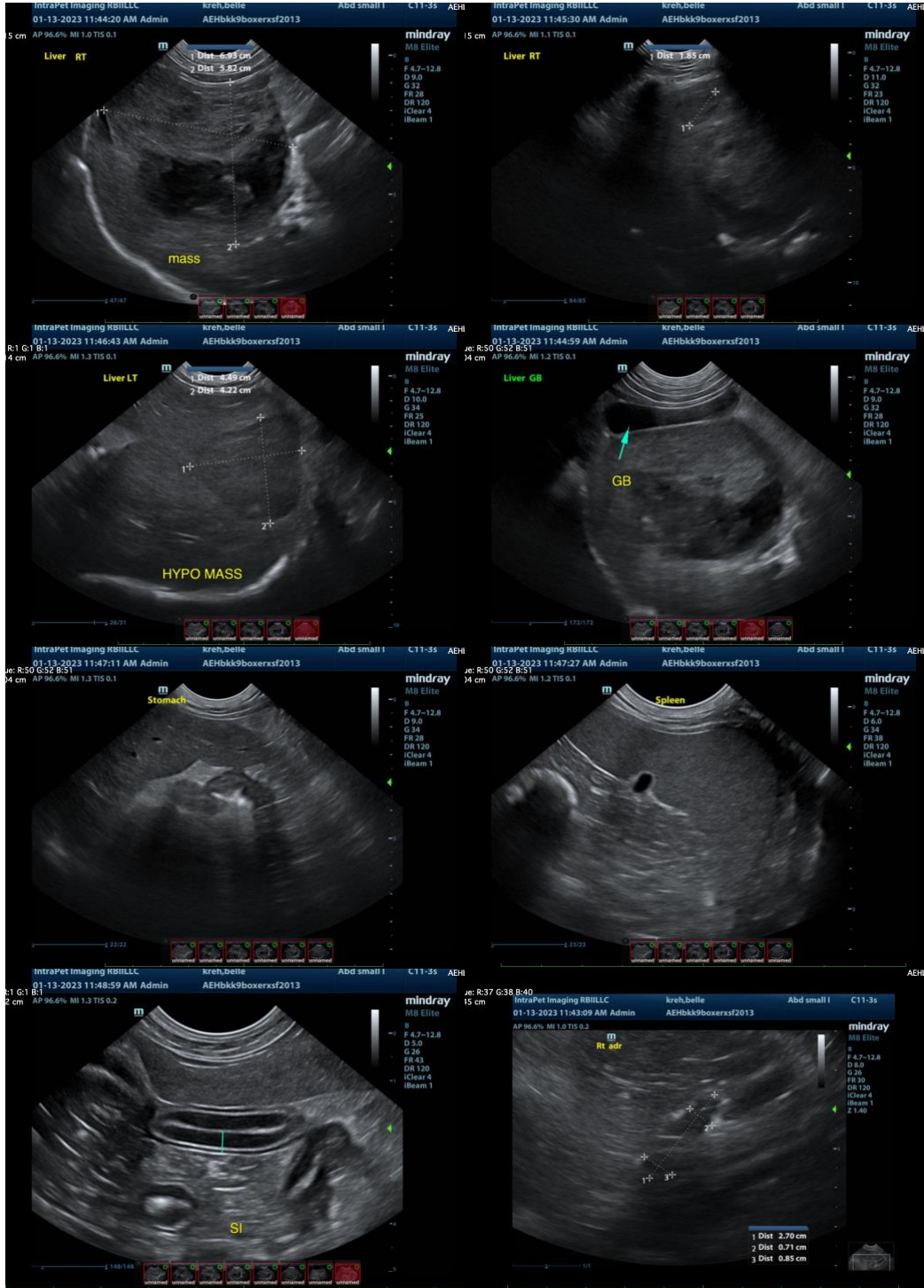
- Prominent mottled pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Free abdominal fluid. This appears pocketed around areas of significant inflammation and could be associated with peritonitis (sterile or bacterial).

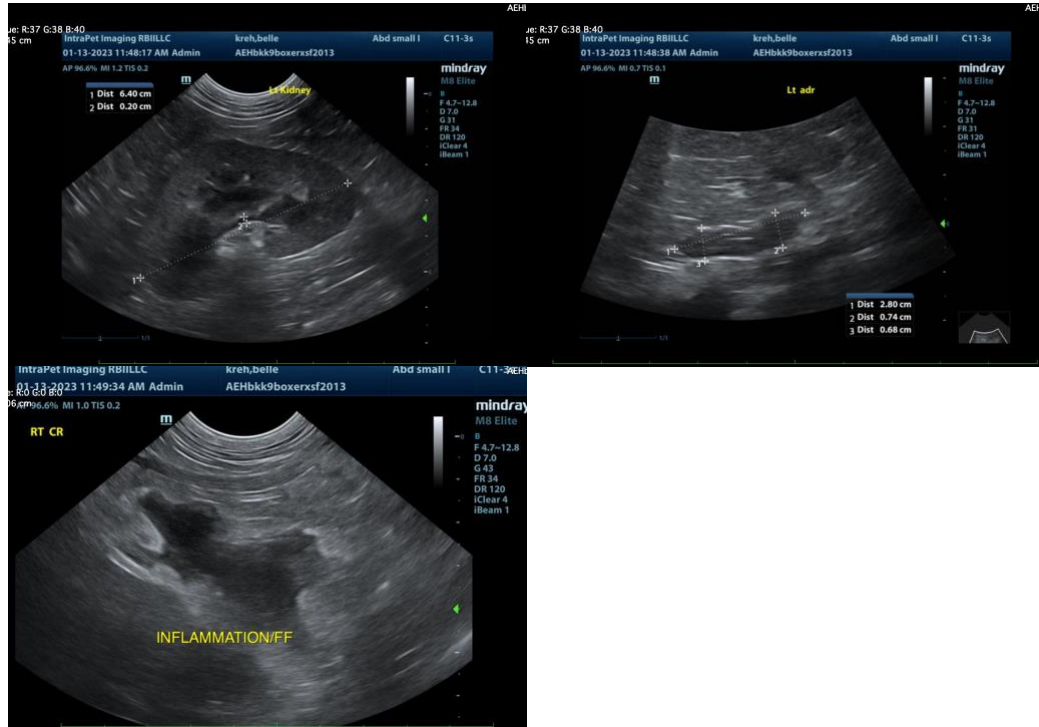
### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are two large liver masses visualized on today's exam. One is hypoechoic mixed echogenicity and cavitated and appears inflamed and surrounded by a small amount of fluid, etc., this could be a necrotic mass lesion, an abscess or a neoplastic lesion. Additionally, there is a solid hypoechoic lesion on the left side of the liver, which appears quiet and could represent a benign or neoplastic lesion. It is likely that the inflamed mass effect is contributing to the clinical signs described. Consider a contrast CT scan to evaluate the extent of both mass lesions and consider surgical option. Additionally, consider a fine needle aspirate of both regions +/- sample obtained for aerobic and anaerobic cultures and three-view thoracic radiographs.

There are changes described in both kidneys, some of these could be age related, progressive changes. I recommend a urinalysis and culture and blood pressure evaluation.







**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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)  
kathleen.sennello@sonopath.com