

IMAGING PERFORMED BY

IntraPet.com



**SonoPath**

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

1-800-838-4268 info@sonopath.com SonoPath.com

**DATE PRESENTING CLINICAL SIGNS**

6/23/22

Abdominal swelling noticed by owner last week, decreased appetite and muscle loss. Owner brought to emergency veterinarian, abdominocentesis removed 4.5 L of serous fluid. PE: mildly pale mucous membranes, distended, non-painful abdomen with fluid wave. Cachexic with wasting epaxial muscles. Arthritis. All else within normal limits.

**PATIENT**

Malcolm Rideout

**SPECIES**

Canine

**BREED**

Boxer

**SEX**

Intact Male

**AGE**

6/21/14

**WEIGHT**

69 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Andi Parkinson RDMS

**HOSPITAL NAME**

Erdman AH

**REFERRING VET**

Dr. Greenfield

**INVOICE**

39026

Current Medications: Gabapentin BID.

Lab Results: CBC, Superchem: Neutrophilia, mild anemia, albumin borderline low 2.2.

Radiographs: Hepatomegaly, ascites.

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**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (7.5 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.81 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. 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 large in size, and normal in echogenicity with smooth peripheral margins. 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 hypoechoic nodule visualized in the right side of the liver measuring 2.71 cm x 2.04 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a mild amount of non-organized echogenic debris. 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 (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 area of the pancreas is normal and isoechoic to surrounding 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 large volume of free abdominal fluid. There is no significant diffuse lymphadenopathy. The omentum is of mildly increased echogenicity.

### ***Other***

There is a caudal solid, slightly irregular, rounded abdominal mass lesion that appears within the omentum. This could represent a metastatic lesion, omental mass or lymph node. Recommend fine needle aspirate.

## **ULTRASONOGRAPHIC FINDINGS**

- Large, mottled spleen – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Large, heterogeneous liver with hypoechoic nodule – 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.
- Large volume free abdominal fluid – recommend fluid analysis and cytology.
- Caudal omental mass lesion – recommend fine needle aspirate.

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

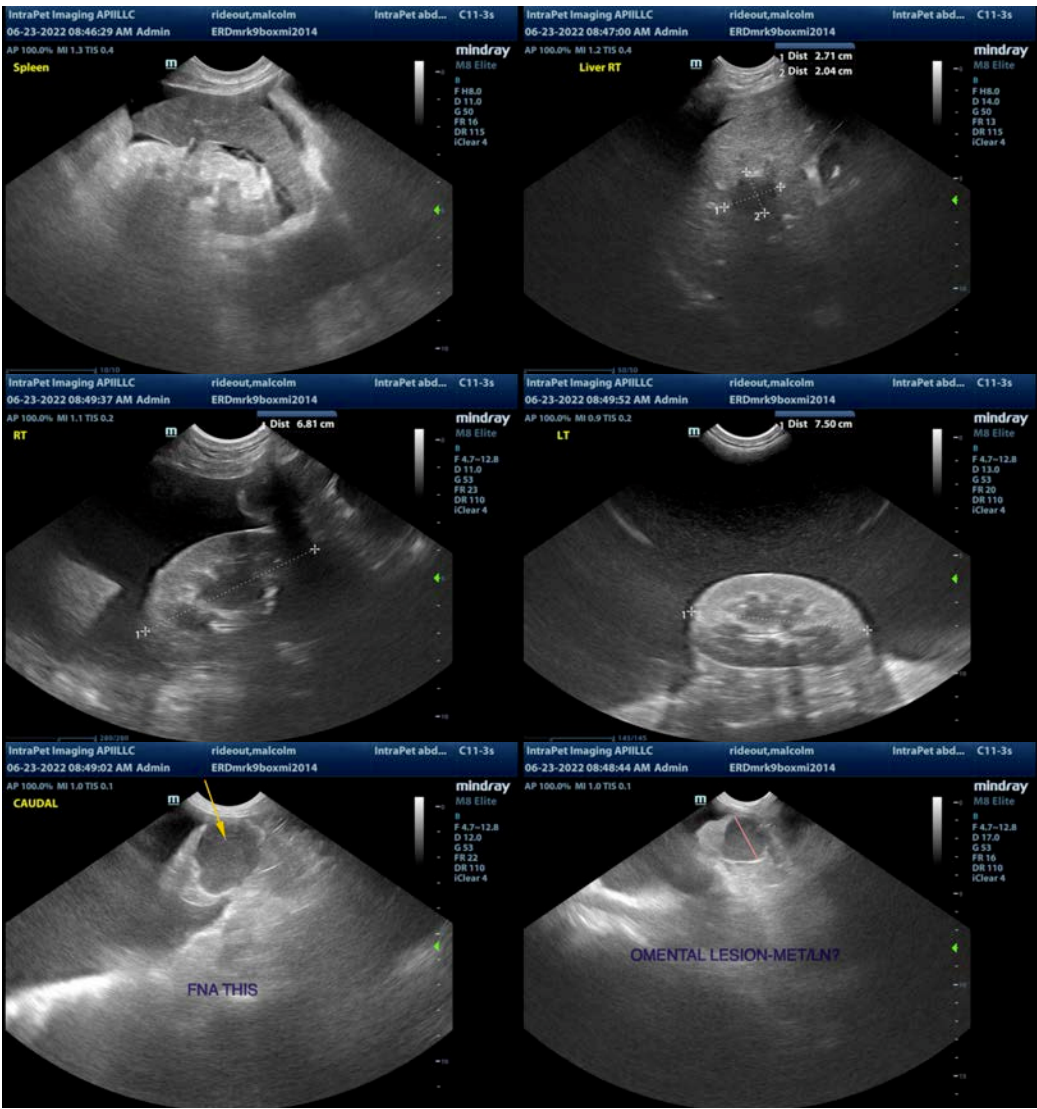
There is a large amount of ascites present. Recommend sampling to determine the nature of this ascites and for cytologic analysis. No large abdominal masses are visualized, but there is a small to moderate size lesion in the caudal abdomen, which should be sampled, as the nature of this lesion is unclear, but it is abnormal.

The spleen and liver appear large and irregular (heterogeneous or mottled). Part of this could be due to

congestion, depending on the cause for the effusion, but a fine needle aspirate of these structures could be considered if a primary neoplasm is considered likely.

Recommend 3-view thoracic radiographs, cardiac and thoracic ultrasound. If a diagnosis cannot be made based on further imaging and cytologic evaluation, then consider a CT scan of the thorax and abdomen. Additionally, a liver function test could be considered. I agree that an albumin of 2.2 is unlikely to result in this degree of effusion.

Suggested imaging of the heart and thorax were recommended and declined at the time of exam.



**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.

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