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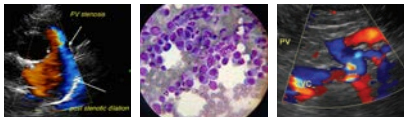

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**DATE**

11/15/22

**PATIENT**

Dexter Morton

**SPECIES**

Canine

**BREED**

Mini Australian Shepherd

**SEX**

Neutered Male

**AGE**

1/27/11

**WEIGHT**

39 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Rachel Brilhart RDMS

**HOSPITAL NAME**

Madonna Vet Clinic

**REFERRING VET**

Dr. Cangro

**INVOICE**

42788

## PRESENTING CLINICAL SIGNS

Losing weight, vomiting, diarrhea, and elevated liver enzymes.

Current Medications: None listed.
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 mildly distended with anechoic urine. The Bladder wall is diffusely mildly thickened (0.30 cm), and the mucosa is mildly irregular. The trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of severe mucosal irregularities, masses or cystic calculi. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

The prostate is normal in size (0.84 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (5.76 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 (4.95 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

### *Adrenal Glands*

The left adrenal gland is normal in size measuring 0.82 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 0.81 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 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 are numerous ill-defined hypo- and hyperechoic nodules visualized. One hyperechoic nodule measures 1.28 cm in diameter. A hypoechoic nodule measures 0.91 cm.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and 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 uniform diameter with minimal fluid distension. Wall thickness is moderately increased. Bowel loops follow a typical curvilinear path. Some areas have reduced detail of wall layering. Duodenum wall measures 0.47 cm. Jejunum wall measures 0.45 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 large and hypoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is evidence of regional mesenteric inflammation. Consistent with mild/moderate pancreatitis.

### *Free Abdomen*

There is a moderate to large amount of free fluid. There are occasional prominent mesenteric lymph nodes visualized. A lymph node near the pancreas is measured at 0.89 cm in diameter. The omentum appears diffusely mildly hyperechoic.

### *Other*

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

## PRIMARY FINDINGS

- Hypoechoic, prominent pancreas surrounded by fluid and mildly hyperechoic mesentery – The pancreatic changes are most consistent with moderate pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.

- Large, heterogeneous, nodular liver – 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 nodules observed trend toward a more benign process but underlying neoplasia cannot be ruled out.

- Prominent cranial abdominal lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

- Moderate amount of free abdominal fluid

## SECONDARY FINDINGS

- The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

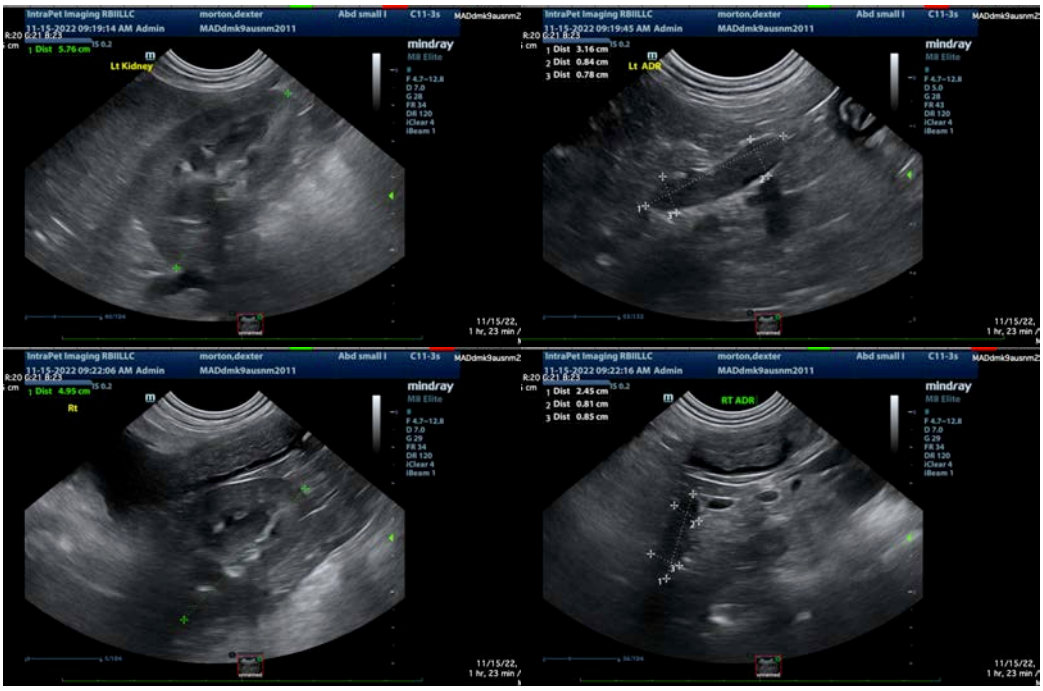
No focal lesions are visualized associated with the small intestine, but it appears slightly thickened. This can sometimes be due to edema secondary to the fluid or could be due to primary GI disease. Correlate with bloodwork (are albumin levels low?) and clinical signs.

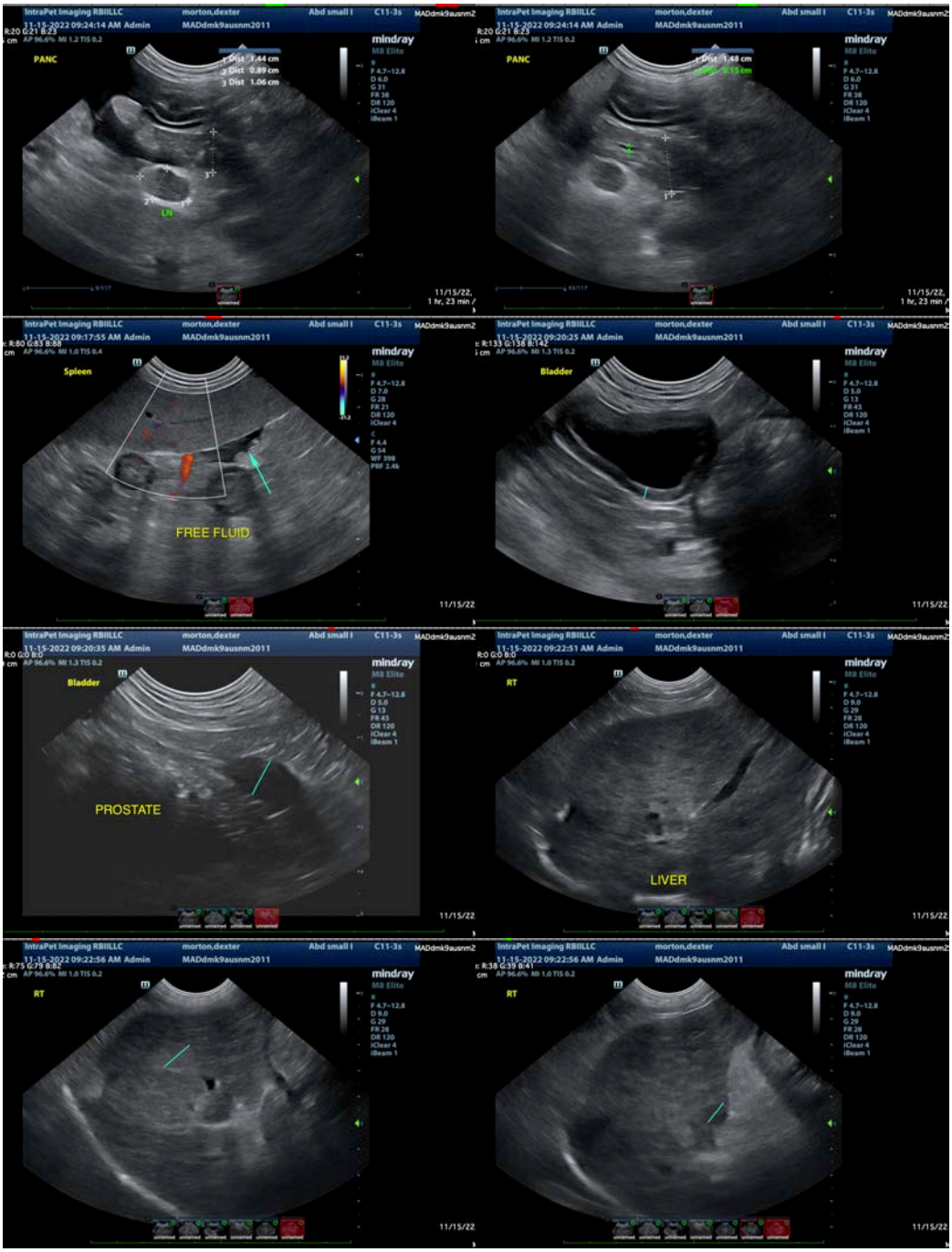
The liver is significantly heterogeneous with ill-defined hyper- and hypoechoic nodules. The general appearance of these nodules trends away from an underlying neoplastic process, but this cannot be definitively determined based on observation. Depending on the significance and type of liver enzyme elevations present, consider a liver function test and a fine needle aspirate of the liver, provided coagulation parameters are normal. Also, you could consider Leptospirosis testing, etc. The abdominal fluid could be secondary to liver disease. Recommend obtaining a sample of the free abdominal fluid for fluid analysis and cytologic evaluation.

The pancreas is prominent and there is some hyperechoic mesentery surrounding. Often, free abdominal fluid will make the pancreas appear somewhat more prominent, so the significance of this is unclear. Correlate with a cPL level. If pancreatic disease or neoplasia is a strong concern, you could consider a fine needle aspirate of the pancreas.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

Although abdominal disease seems most likely, you could consider a cardiac ultrasound to rule out underlying cardiac disease a cause for the fluid.

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**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)
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