
**PATIENT PRESENTING CLINICAL SIGNS**

Charlie Fleming

Presented with hyporexia for 2 weeks, bloody urine, diarrhea off and on, rapid weight loss, occasional vomiting. PE - T 39.9C, non painful, NSF otherwise cerenia 60mg PO SID, Amoxiclav 562mg PO BID, Gabapentin 300mg PO BID/TID

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: Low RBCs, HCT, Hemoglobin, Low Albumin, Total protein, Lymphs, Elevated ALKP, ALT, GGT, Low Cholesterol, mildly elevated Lipase, Amylase.

**BREED**

Boxer

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

Neutered Male

The urinary bladder is moderately distended with mild primarily suspended echogenic debris present. 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 calculi. Echogenic debris of this type can be associated with small crystals, cellular debris and proteinaceous debris.

**AGE**

7 Years

The prostate is normal in size (0.78 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.

**WEIGHT**

37 kg

The left kidney has a normal shape and size (6.11 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 hydronephrosis. Renal vasculature is normal.

The right kidney has a normal shape and size (7.13 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 hydronephrosis. Renal vasculature is normal.

**INTERPRETED BY**

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

**Adrenal Glands**
**IMAGING PERFORMED BY**

Crystal Hill

The left adrenal gland is normal in size measuring 0.65 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.

**HOSPITAL NAME**

BPH Stoney Creek

The right adrenal gland is normal in size measuring 0.77 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.

**REFERRING VET**

Dr. Mellish

**Spleen**

The spleen is large, hypoechoic, irregular, and severely mottled. The blood flow through the hilus and splenic parenchyma appears normal. The mottling in some areas is more consistent with a diffuse nodular pattern. There is a large amount of inflammation surrounding the spleen with scant free fluid.

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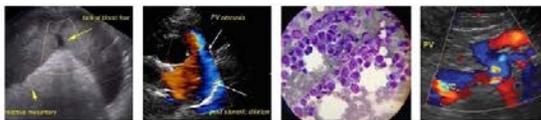
**Liver**

The liver is large, hypoechoic, and heterogeneous. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

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The gallbladder 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.



**PATIENT**

***Gastrointestinal***

Charlie Fleming

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

**SPECIES**

Canine

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. Duodenum wall measured 0.52 cm. Jejunum wall measured 0.43 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

**BREED**

Boxer

**SEX**

Neutered Male

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***

**AGE**

7 Years

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***

**WEIGHT**

37 kg

There is a small volume of free abdominal fluid. No lymphadenopathy is noted. The mesentery is diffusely hyperechoic, particularly around the liver and spleen.

**ULTRASONOGRAPHIC FINDINGS**

**INTERPRETED BY**

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

- Large, irregular, hypoechoic/micronodular 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.
- Echogenic debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.
- Large, hypoechoic, heterogeneous 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.
- Shadowing material visualized within the gastric wall – Correlate with feeding history and abdominal radiographs. If the patient was adequately fasted, consider the possibility of ingested foreign material, delayed gastric emptying, etc.
- Small volume free abdominal fluid and diffusely hyperechoic mesentery – consistent with severe inflammation.

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

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**REFERRING VET**

Dr. Mellish

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

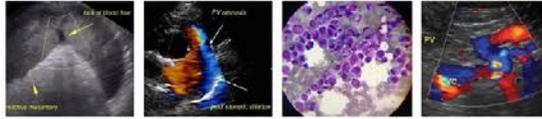
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The cranial abdomen is very bright with inflamed mesentery and a small amount of free fluid. The spleen appears very irregular and almost nodular in appearance. The liver is large and hypoechoic. Recommend a fine needle aspirate of the spleen. If that is not diagnostic, consider a fine needle aspirate of the liver. Based on the history provided, I was concerned about a focal GI lesion, but none was observed. Unfortunately, this is still a concern. Consider other sources of low albumin such as liver dysfunction



**PATIENT**

Charlie Fleming

(consider pre- and post-prandial bile acids to evaluate liver function) and protein loss from the kidneys (recommend a urine protein to creatinine ratio if no infection is present).

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

**SPECIES**

Canine

If cytology of the liver and spleen is not helpful, consider fluid analysis and cytology on a sample of free fluid. Repeat imaging could be considered if this patient's condition progresses.

**BREED**

Boxer

**SEX**

Neutered Male

**AGE**

7 Years

**WEIGHT**

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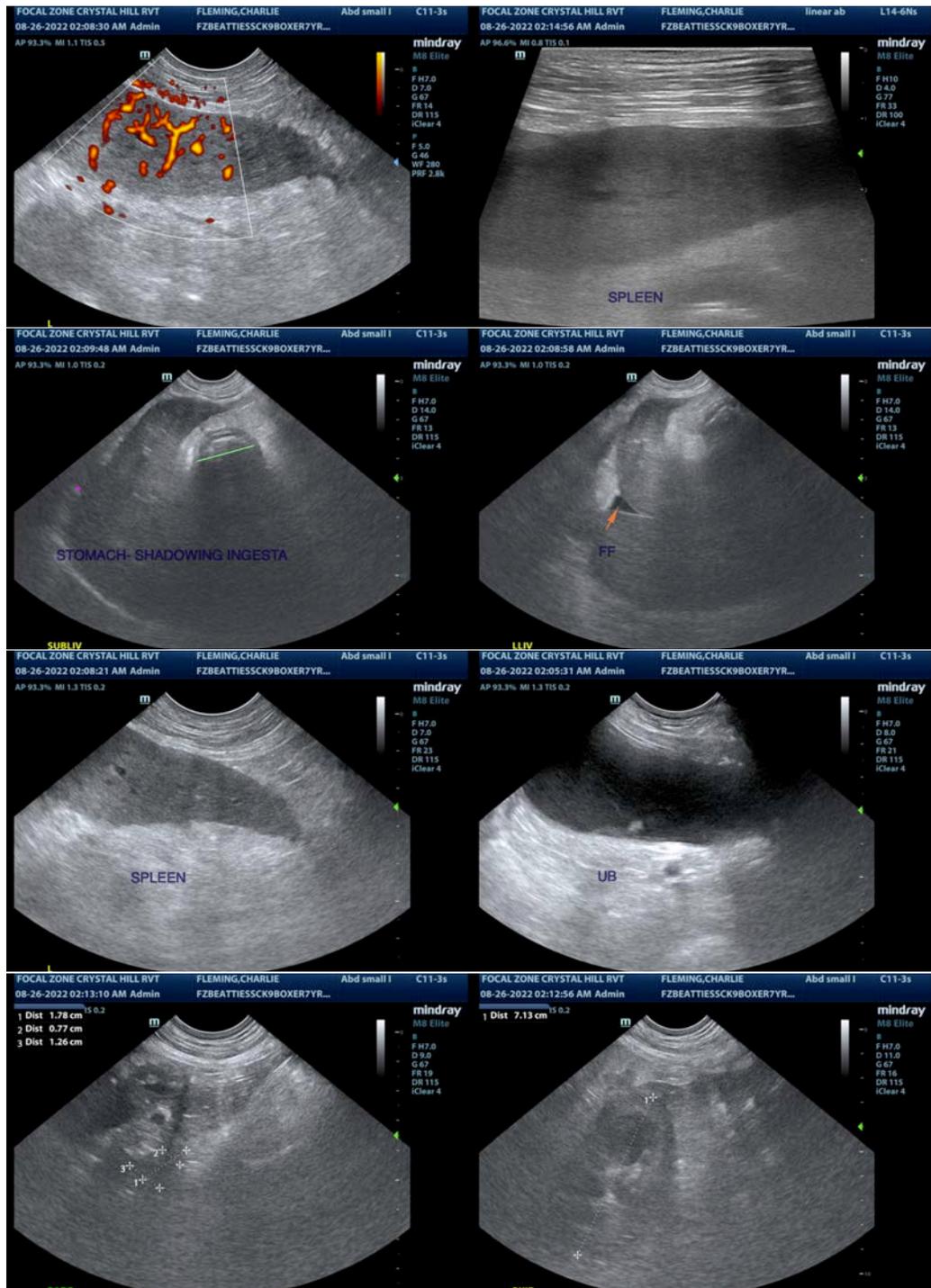
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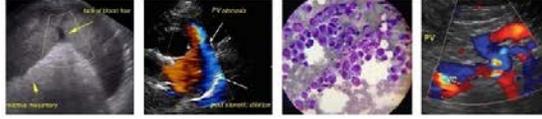
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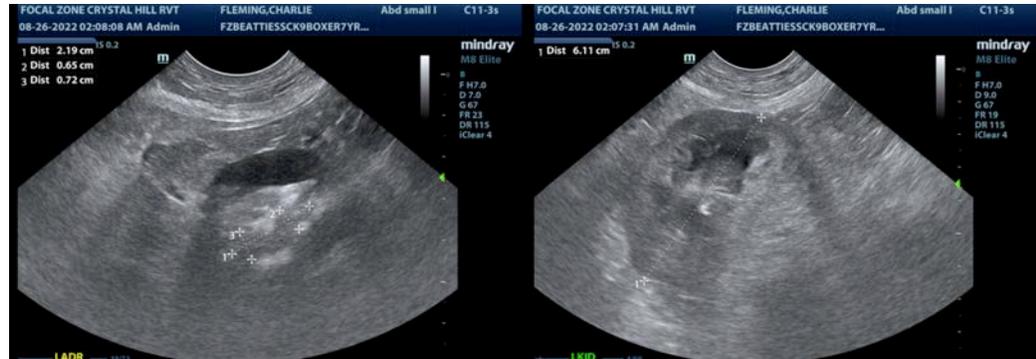
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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