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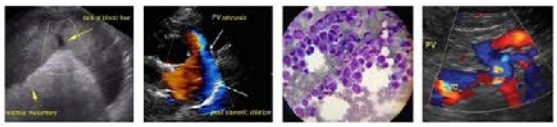

THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

**PATIENT**

Bodie Longboat

**SPECIES**

Canine

**BREED**

Cattle Dog X

**SEX**

Neutered Male

**AGE**

4 Years

**WEIGHT**

27 kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

Burford Vet Hospital

**REFERRING VET**

Dr. Clench

**INVOICE**

41308

**DATE**

9/14/22

## PRESENTING CLINICAL SIGNS

Was seen at Emerg on Monday for multiple episodes of vomiting after breakfast. Admitted again yesterday to reg DVM as still not doing well, anorexic, lethargic, painful abdomen. No obvious gas pattern on rads. With coaxing ate a tsp of food today and no vomiting so far but still acting nauseous. Had first BM today in a few days as well. Has been on Metronidazole, IV Fluids, Cefazolin, Cerenia, Mirtazipine, Metoclopramide and Hydromorphone.

Abnormal PE/Chem/CBC/UA Results: Abnormal CPLi

## 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 (6.73 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 (6.69 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 0.62 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 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 subjectively normal in size, and hypoechoic 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. No focal nodules or cystic lesions are observed.

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.

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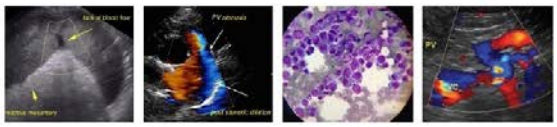

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### *Gastrointestinal*

The stomach large and fluid distended. 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 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. The proximal duodenum appears severely thickened with a hypoechoic wall and loss of detail wall layering, measuring approximately 1.0 cm in thickness at the gastroduodenal junction.

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 left limb of the pancreas appears somewhat mottled and prominent and there is mildly hyperechoic mesentery. In the region of the right limb, there is a large amount of ill-defined hypoechoic tissue that appears to be surrounded by severely inflamed mesentery and free fluid. This is concerning for severely inflamed right limb of the pancreas. The degree of change visualized could be consistent with necrotizing pancreatitis or pancreatic neoplasia.

### *Free Abdomen*

There is a moderate amount of free abdominal fluid. No lymphadenopathy noted. The omentum is severely hyperechoic around the right limb of the pancreas.

There are glimpses of images with the suggestion of pleural effusion. Recommend 3-view thoracic radiographs.

## ULTRASONOGRAPHIC FINDINGS

- Large, irregular, hypoechoic right limb of the pancreas surrounded by hyperechoic mesentery and fluid – The pancreatic changes are most consistent with severe 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.
- 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.
- Large fluid dilated stomach – Suspect a partial obstruction and ileus secondary to the severely inflamed pancreas.
- Thickened, fluid dilated pylorus/proximal duodenum with decreased detail of wall layering – These changes could be secondary to inflammation, edema, or infiltrative neoplasia. I suspect this is secondary to inflammation and edema from the pancreatitis.
- Free abdominal fluid
- Questionable pleural effusion – recommend 3-view thoracic radiographs.

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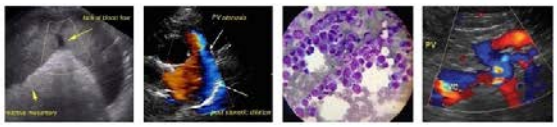

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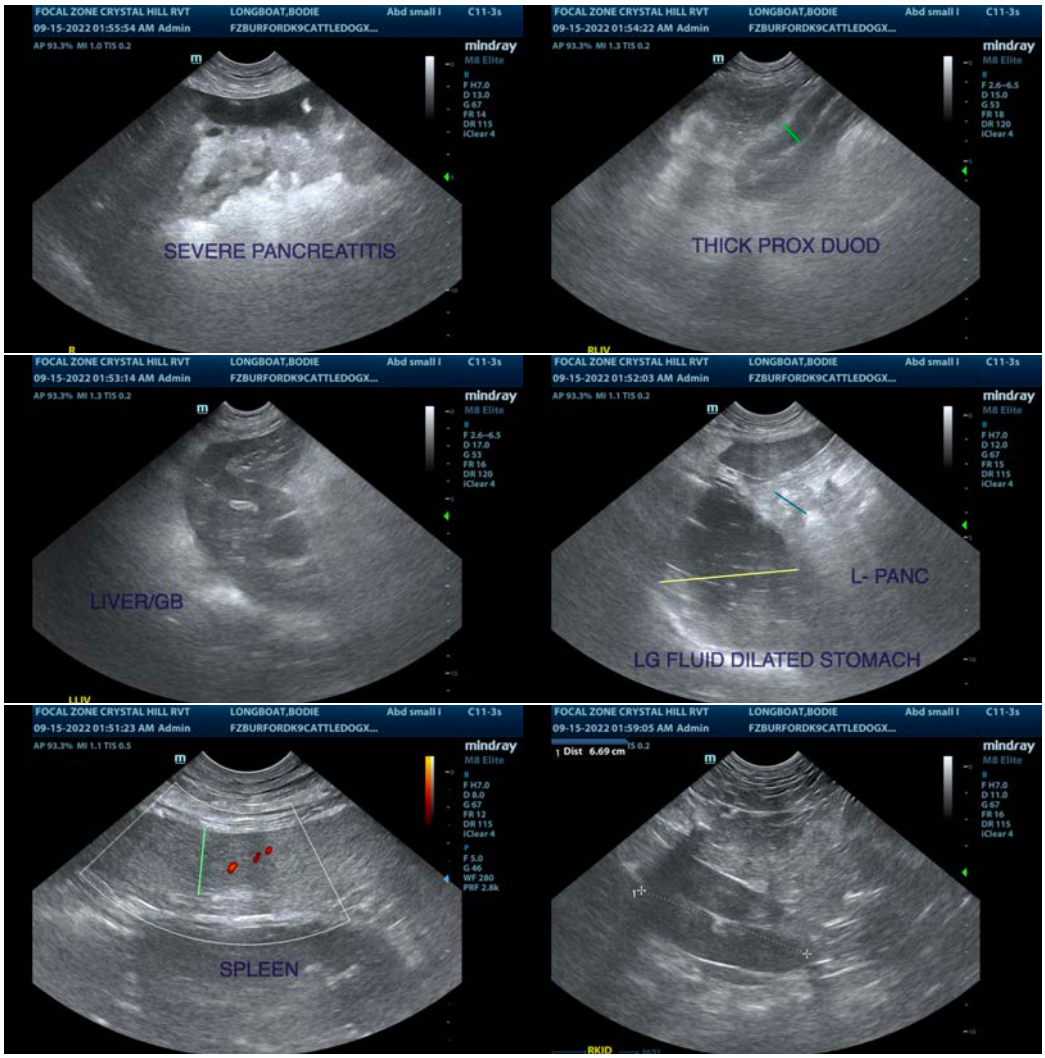
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The area of the right limb of the pancreas appears very hyperechoic with abnormal hypoechoic tissue and fluid. These findings are most concerning for severe pancreatitis/possible necrotizing pancreatitis. Consider a fine needle aspirate of this inflamed tissue to look for any evidence of infection, neoplastic cells, etc. Recommend aggressive therapy for pancreatitis with IV fluids, pain medications, nausea medications, possibly plasma, and continued monitoring for the possible development of an abscess, etc. Additionally, sometimes removing some of the inflammatory fluid can make them feel better and relieve some pressure.

The pylorus and proximal duodenum appear thickened with reduced detail of wall layering. I suspect this is inflammation and edema secondary to the local pancreatic inflammation, and I suspect this is causing a partial obstruction contributing to the nausea and fluid retention. Consider use of a prokinetic medication and possible placement of a nasogastric tube to drain the stomach if it becomes fluid distended. This can greatly improve patient comfort.

There is the suggestion of some pleural effusion on a few views of the liver. Recommend thoracic radiographs to further evaluate.



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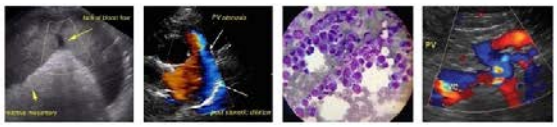

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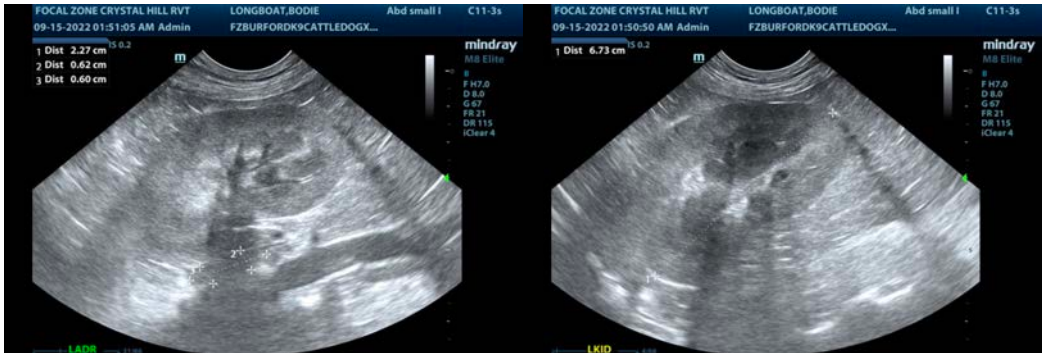


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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)

kathleen.sennello@sonopath.com