

## PATIENT

Louie Compton

## PRESENTING CLINICAL SIGNS

## SPECIES

Canine

P was seen at GVVH yesterday and owner said patient "was fine until 1 pm yesterday when he then fell over and hasn't moved since. Early this am he ran around like something was bothering him per O. Very gassy today". RE-wnl. Unofficial in-clinic u/s: bright pancreas and mesentery, gall bladder is distended with mod amount of sludge. NPO tonight rec u/s tomorrow if possible. TGH on gabapentin, cerenia for pain. Get back on i/d LF. Note 8/3/2022: B/W shows Alb 1.7 (ca low b/c of low albumin) and neutrophilia 18K r/o inflammatory. Bilirubin is not elevated so probably no biliary obstruction :) Rec u/s and tx for pancreatitis

## BREED

Bichon x Poodle

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### SEX

Neutered Male

#### *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.

### AGE

9 Years

The prostate is normal in size (1.01 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

18.8 Pounds

The left kidney has a normal shape and size (4.36 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.

### INTERPRETED BY

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

The right kidney has a normal shape and size (4.94 cm) with a non-obstructive nephrolith. 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.

### IMAGING BY

Loetitia Saint-Jacques,  
LVT

#### *Adrenal Glands*

The left adrenal gland is normal in size measuring 0.55 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.

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The right adrenal gland is normal in size measuring 0.42 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. Kristi Cortright

#### *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*

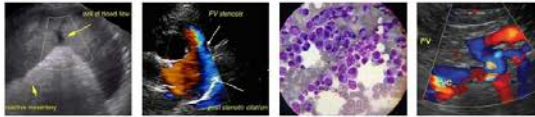
The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible

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**PATIENT**

Louie Compton portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

**SPECIES**

Canine

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 moderate amount of hyperechoic debris. The cystic and common bile ducts are normal/not visible.

**BREED**

Bichon x Poodle

**Gastrointestinal**

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.

**SEX**

Neutered Male

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. Jejunum wall measured 0.38 cm. Duodenum wall measured 0.47 cm. There is significant/severe mucosal speckling/fogging visualized. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

**AGE**

9 Years

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.

**WEIGHT**

18.8 Pounds

**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.

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Medicine)

**Free Abdomen**

There is a scant amount of free fluid. No lymphadenopathy noted. The omentum is diffusely hyperechoic.

**IMAGING BY**

Loetitia Saint-Jacques,  
LVT

**PRIMARY FINDINGS**

- Diffusely thickened small intestine with significant mucosal speckling and fogging – Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine. The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia.
- 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.
- 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.

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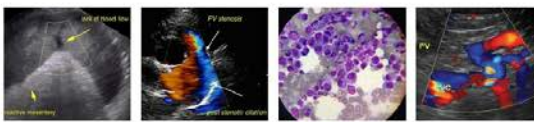
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**PATIENT**

Louie Compton • Scant free abdominal fluid – likely secondary to the hypoalbuminemia reported.

**SPECIES**

Canine

**BREED**

Bichon x Poodle

**SEX**

Neutered Male

**AGE**

9 Years

**WEIGHT**

18.8 Pounds

**SECONDARY FINDINGS**

- Diffusely thickened small intestine with significant mucosal speckling and fogging – Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine. The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia.
- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.
- Moderate ingesta within the gastric lumen – Correlate with feeding history. If the patient was adequately fasted, consider such differentials as delayed gastric emptying or partial outflow tract obstruction (none observed).

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The small bowel appears thickened and edematous with significant mucosal speckling and fogging. Based on the information provided, this is a likely source for the hypoalbuminemia reported. Additionally, I would recommend a liver function test and evaluation of the urine for excess protein (urinalysis and urine protein/creatinine ratio) to rule out concurrent liver or renal disease. Possible differentials include lymphangiectasia, IBD, or intestinal neoplasia (other differentials exist).

**INTERPRETED BY**

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- Recommend a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to look for evidence of a cobalamin deficiency, dysbiosis, etc.
- Recommend endoscopic GI biopsies to differentiate between the types of protein losing enteropathy, as these can have very different prognosis and treatment protocols.
- Consider an ultra low-fat diet until a diagnosis can be obtained.
- Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

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**SPECIES**

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Bichon x Poodle

**SEX**

Neutered Male

**AGE**

9 Years

**WEIGHT**

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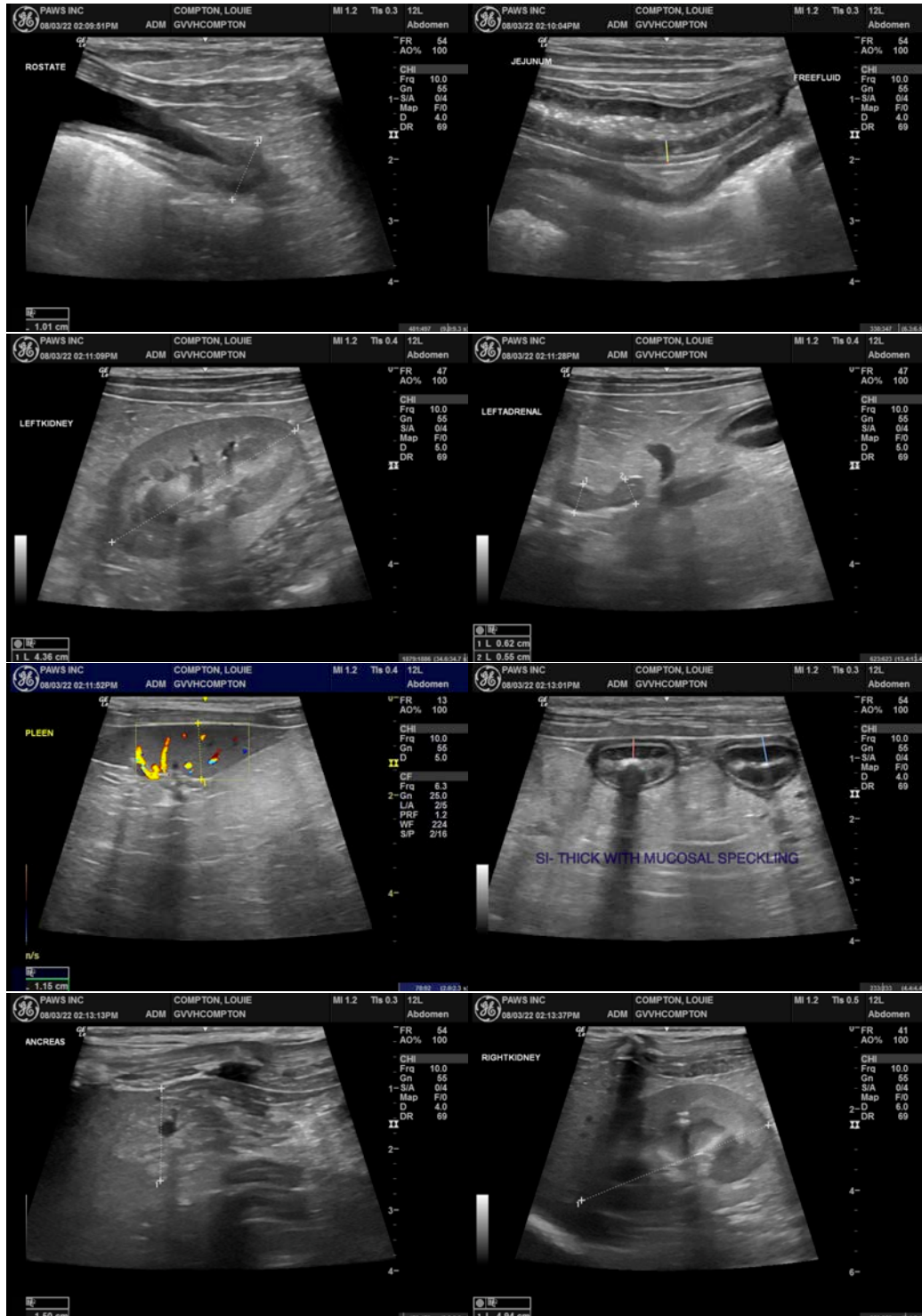
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**SPECIES**

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**BREED**

Bichon x Poodle

**SEX**

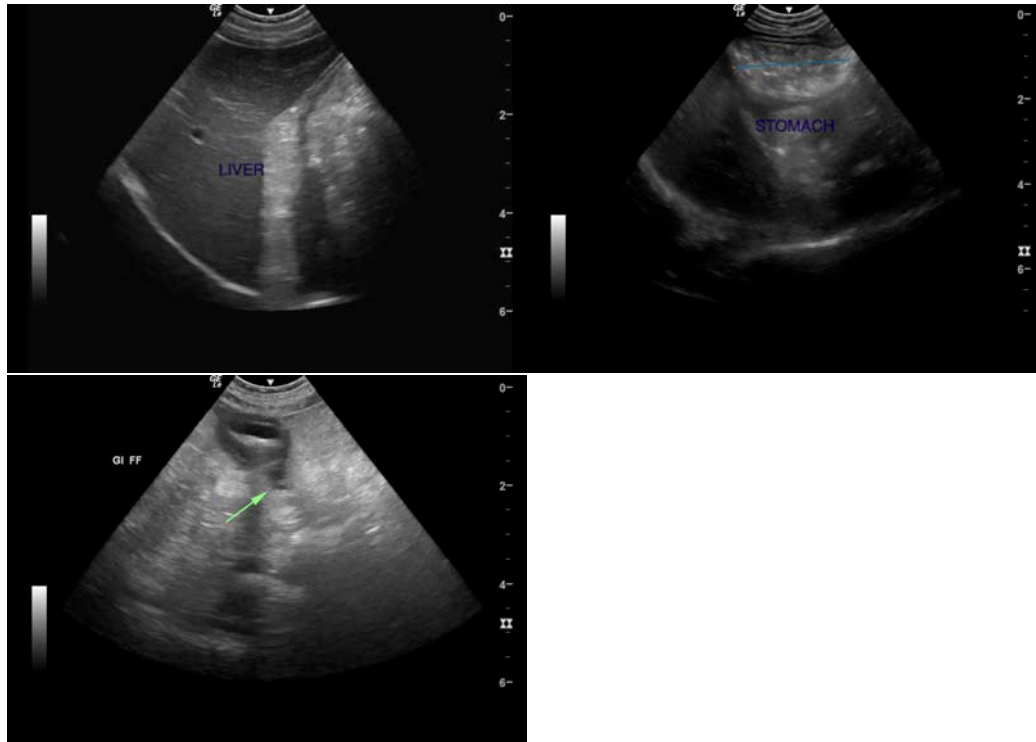
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**AGE**

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**WEIGHT**

18.8 Pounds



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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.

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