



**PATIENT**

Pippa Cullen

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

9 Years

**WEIGHT**

12.5 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Dr. Kirstin Hewitt

**HOSPITAL NAME**

Pawsitive Wellness VC

**REFERRING VET**

Dr. Laura Hardy

**INVOICE**

44277

**DATE**

1/17/23

**PRESENTING CLINICAL SIGNS**

Pippa is a 9 yo SF DSH that presented for further evaluation of chronic vomiting and urinary issues. Pippa has been inappropriately urinating for many years off/on and has struvituria. She was put on Ultamino (hypoallergenic diet trial) in 2021 and vomiting did not resolve. Patient was seen recently (12/28/2022) for inappropriate urination. She was started on i/d biome and P developed diarrhea. She is currently still having vomiting and soft stool in addition to inappropriate urination.

Abnormal PE/Chem/CBC/UA Results: Urinalysis: struvituria, pH 6, USG > 1.050 Chem 17: unremarkable

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (4.0 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (3.0 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**Adrenal Glands**

The adrenal glands are unable to be well visualized in these images.

**Spleen**

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

**Liver**

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

**Gastrointestinal**

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen is mildly distended with echogenic



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non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction or foreign material noted.

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The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

**Pancreas**

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The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

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**Free Abdomen**

There is no evidence of free peritoneal effusion noted in these images.

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There is no apparent lymphadenopathy noted in these images.

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

12.5 Pounds

- **Inflammatory bowel disease (IBD) pattern** – Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

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If not recently evaluated, a urine culture is recommended with at least 7-10 days between the culture and any recent antibiotics.

In the face of negative urine culture(s) and no cystoliths, masses, etc., these urinary signs are most consistent with sterile cystitis or feline lower urinary tract disease (FLUTD).

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Recommendations include maximizing water consumption (water fountains, canned food, etc) as well as reducing stress (recommendations can be found at Indoor Cat Initiative out of The Ohio State University CVM). Transition to a urinary health diet such as Royal Canin Urinary SO (or similar) could also be considered.

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Additionally, given this patient's combined urinary and gastrointestinal signs, empirical deworming with a 5-day course of Panacur is recommended, as parasites can affect the urinary system as well.

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Ultimately, pending response to empirical therapies and results of the above recommended diagnostics, etc., biopsies of the gastrointestinal tract, being sure to include ileum, if possible, may be necessary to definitively diagnose and therefore manage this patient's suspected infiltrative bowel disease.

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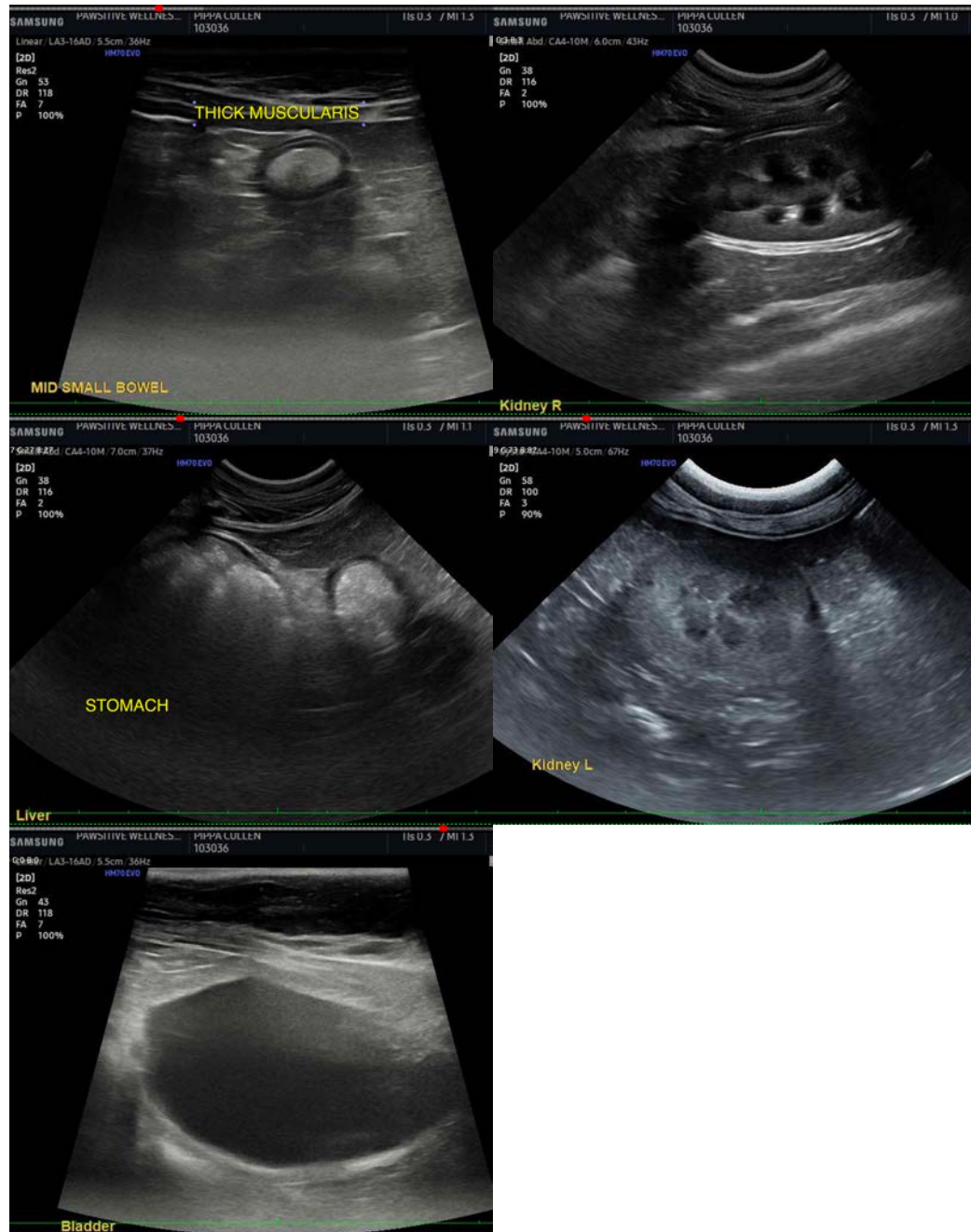
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
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