



**PATIENT PRESENTING CLINICAL SIGNS**

Tilley Westermann

not eating for almost 7 days. Has lost significant weight since previously being 9kg. Had 1 episode of vomiting about a week ago and may have aspirated a bit. Some blood in stool noticed recently. Can see kidney and bladder stones on rads.

**SPECIES**

Abnormal PE/Chem/CBC/UA Results: M1 kidney elevation, rest of blood NSF.

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**BREED**

**Urinary System**

Shih Tzu

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is somewhat irregular in the ventral aspect with mildly thickened wall. Additionally, there is a soft tissue projection measuring 1.5 cm in length and 0.3 cm in width, most consistent with a bladder polyp. The area of the trigone, ureteral papillae and proximal urethra to a depth of 2.0 cm appear free of any mucosal irregularity or cystic calculi. There is a solitary mineralization most consistent with a stone visualized in the mid body of the urinary bladder, measuring 1.0 cm in diameter.

**SEX**

Spayed Female

**AGE**

15 Years

The left kidney has a normal shape and size (3.79 cm) with a 0.36 cm non-obstructive nephrolith. Overall echogenicity is slightly hyperechoic with poor 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.

**WEIGHT**

7.8 kg

The right kidney has a normal shape and size (4.52 cm) with small non-obstructive nephroliths. Overall echogenicity is slightly hyperechoic with poor 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**

**Adrenal Glands**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

The left adrenal gland is normal in size measuring 0.59 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.

**IMAGING PERFORMED BY**

Crystal Hill

The right adrenal gland is normal in size measuring 0.49 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.

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Lynden Animal Clinic

**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.

**REFERRING VET**

Dr. Collins

**Liver**

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is mildly 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.

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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.

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**PATIENT**

**Gastrointestinal**

Tilley Westermann

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.

**SPECIES**

Canine

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Duodenum wall measured 0.49 cm. Jejunum wall measured 0.30 cm.

**BREED**

Shih Tzu

Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

**SEX**

Spayed Female

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.

**AGE**

15 Years

**Pancreas**

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.

**WEIGHT**

7.8 kg

**Free Abdomen**

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

**ULTRASONOGRAPHIC FINDINGS**

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

- Mineralization and suspected polyp in the urinary bladder – Recommend urinalysis and culture and confirmation with abdominal radiographs. Findings are most likely consistent with bacterial cystitis and a bladder stone.
- Decreased corticomedullary distinction in both kidneys with non-obstructive nephroliths – The bilateral renal findings are consistent with age-related change.
- Mildly 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. This could be normal in an older pet.
- Mildly thickened small intestine – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease).

**IMAGING PERFORMED BY**

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

A focal lesion is not visualized on today's scan that would definitively explain the anorexia reported. The changes observed are relatively mild, and many could be within normal limits for an older pet.

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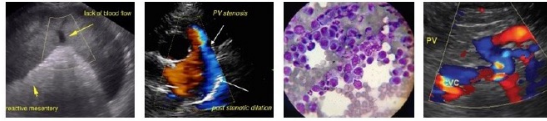
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If underlying GI disease is suspected, you could consider a GI panel to Texas A&M, switching to a novel protein/hydrolyzed protein prescription diet, and starting a probiotic (along with other symptomatic treatments).

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Recommend a urinalysis and culture to look for an underlying infectious process. If there is an infection present, you could consider trying to treat it and use a dissolving diet to see if this is a struvite stone. I



**PATIENT**

Tilley Westermann

suspect the soft tissue lesion is consistent with an inflammatory polyp, but close monitoring is warranted, as an underlying neoplastic process cannot be excluded as a possibility. If there is no infection present, it is likely that a cystotomy and biopsy of the bladder wall would be indicated.

**SPECIES**

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

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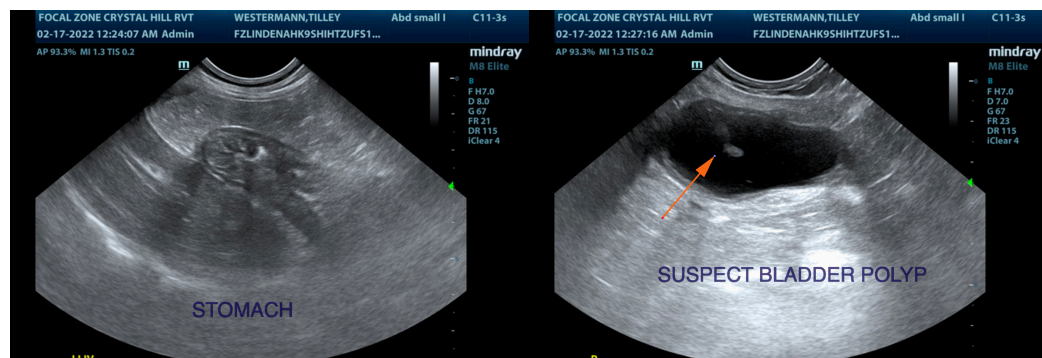
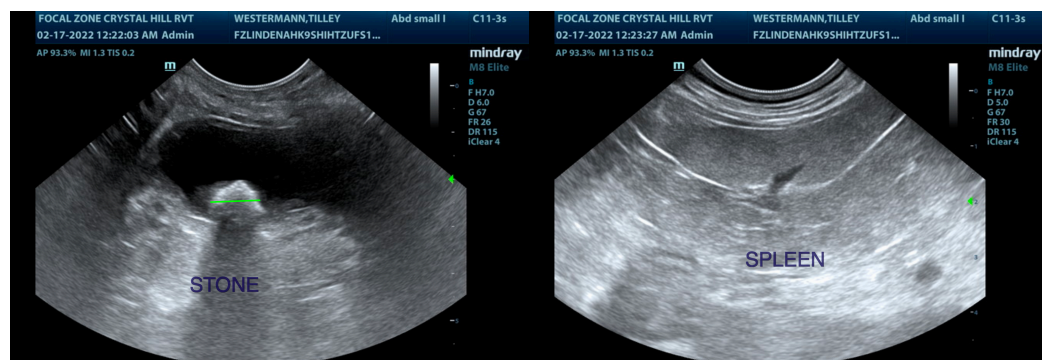
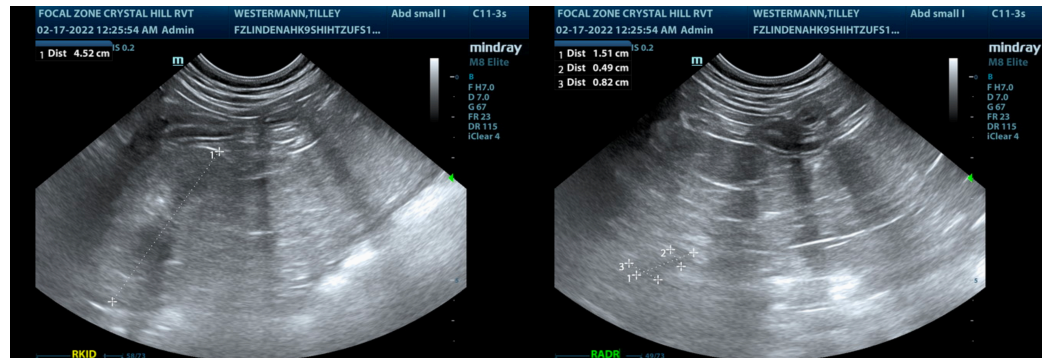
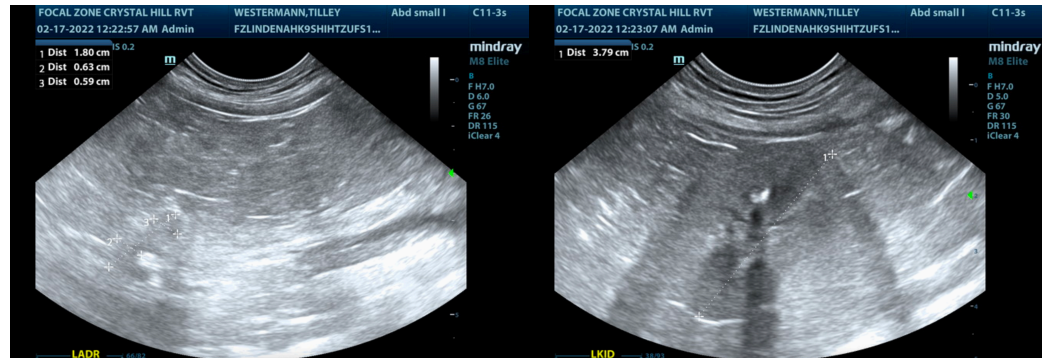
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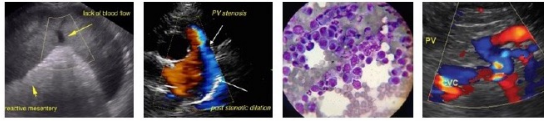
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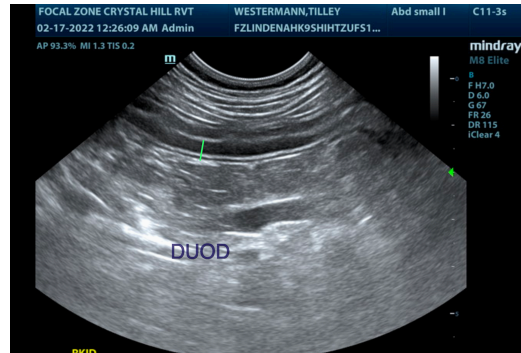
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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