



**DATE PRESENTING CLINICAL SIGNS**

11/22/22 Hx diarrhea for several weeks, 1/2 lb weight loss. Good appetite. New mild azotemia with isosthenuria.

**PATIENT** Current Medications: Hill's GI Biome x 1 week

Pixie Velazco Lab Results: 11/11/22 BUN 34, SDMA 16, USG 1.018

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**BREED** *Urinary System*

Papillon

The urinary bladder is mildly to 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 urinary bladder is only moderately distended and has a somewhat intrapelvic location, making full evaluation of the trigone region difficult.

**SEX**

Spayed Female

The left kidney has a normal shape and size (2.36 cm) with non-obstructive nephroliths, examples of which measure 0.24 cm and 0.25 cm, and a 0.50 cm cortical cyst. Overall echogenicity is slightly hyperechoic with poor 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, infarcts or hydroureter. Renal vasculature is normal.

**AGE**

1/7/09

**WEIGHT**

2.875 Pounds

The right kidney has a normal shape and size (2.42 cm) with non-obstructive nephroliths visualized, one of which measures 0.32 cm. Overall echogenicity is slightly hyperechoic with poor 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, infarcts or hydroureter. Renal vasculature is normal.

**INTERPRETED BY**

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

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.50 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**

Andi Parkinson RDMS

The right adrenal gland is normal in size measuring 0.40 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.

**HOSPITAL NAME**

Timonium AH

**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. McIntyre

**Liver**

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

**INVOICE**

42913

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 to large amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

### ***Gastrointestinal***

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.

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. Jejunum wall measures 0.19 cm. Duodenum wall measures 0.27 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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 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***

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.

## **PRIMARY FINDINGS**

- Decreased corticomedullary distinction in both kidneys with non-obstructive nephroliths visualized – The bilateral renal findings are consistent with age-related change. The hyperechoic mineralized foci observed at the corticomedullary junction of the left/right kidney are consistent with small, non-obstructive nephroliths.
- Moderate to large gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

## **SECONDARY FINDINGS**

- Intrapelvic bladder – This is likely an incidental finding.

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No focal lesions are visualized associated with the gastrointestinal tract to explain the diarrhea reported. The changes in the kidneys are consistent with chronic progressive age related renal disease. Consider a blood pressure, urinalysis and culture as a baseline, and continued monitoring.

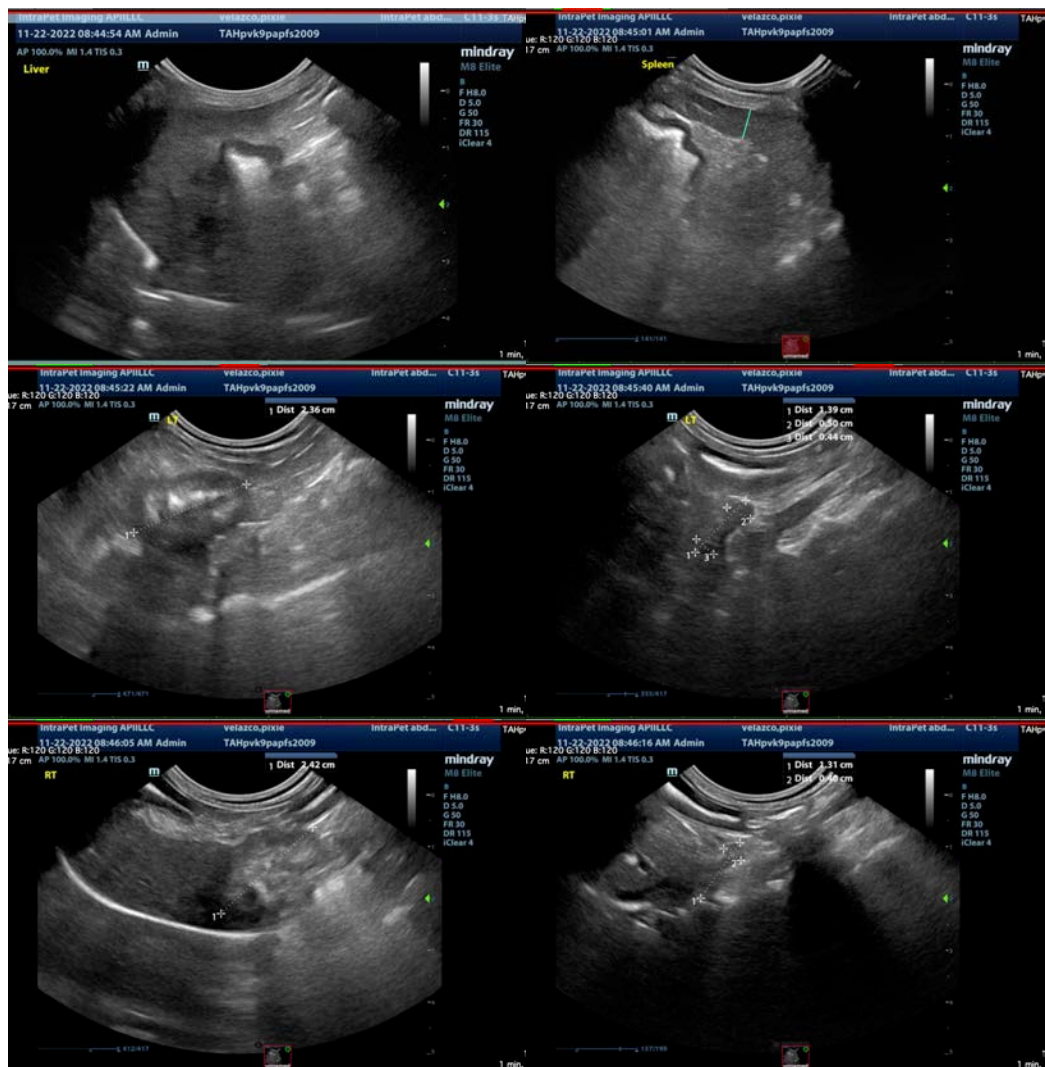
Consider such differentials as food allergy/dietary intolerance, GI parasitism, pancreatitis, dysbiosis, recurrent dietary indiscretion, IBD and less likely neoplasia, etc....

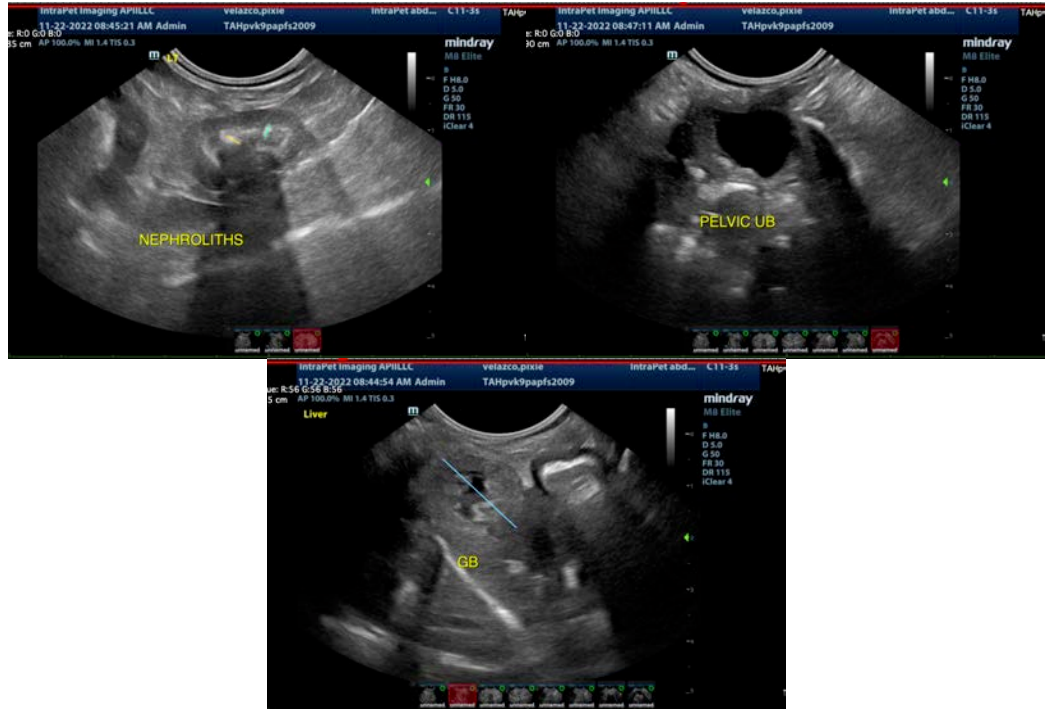
- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.

- Recommend chronic probiotic therapy.
- If symptoms persist despite taking these measures, options moving forward would include obtaining GI biopsies, or a fecal transplant if dysbiosis is strongly suspected (recent/frequent broad-spectrum antibiotic use, etc.).

The gallbladder appears significantly distended with non-organized echogenic debris. Correlate these findings with liver values and consider chronic Ursodiol therapy and continued monitoring for progression of this lesion.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.





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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