

**DATE**

1/20/22

**PRESENTING CLINICAL SIGNS**

History: recurrent diarrhea for past few months, now with decreased appetite and activity, but no weight loss or changes to explain clinical signs. Pt does have 4/6 murmur and on cardiac meds for years.

Current Medications: Pimobendan-2.5mg BID, Benazepril-5mg-1/2AM 1PM, Lasix-20mg-up to 1 BID PRN for cough, Metronidazole-250mg BID, ProViable-antidiarrheal paste and probiotic capsules.

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

**PATIENT**

Pippa Spegel

**SPECIES**

Canine

**BREED**Cavalier King Charles  
Spaniel**SEX**

Spayed Female

**AGE**

7/26/10

**WEIGHT**

15 lbs

**INTERPRETED BY**Kathleen Sennello  
DVM, MS, Diplomate  
ACVIM (Small Animal  
Internal Medicine)**HOSPITAL NAME**

Alexander AH

**REFERRING VET**

Dr. Alexander

**INVOICE**

95439

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

The urinary bladder is adequately distended with anechoic urine. The bladder wall appears normal with no evidence of mucosal irregularities or calculi. The urinary bladder wall, trigone and ureteral papilla appear normal with no evidence of wall thickening or ureteral calculi. Evaluation of the deep urethra (to the extent of intrapelvic) is a small, hyperechoic shadowing structure that measured 0.3 cm. This has the appearance of a distal urethral mineralization with shadowing material within the distal colon or mineralization of the uterine stump are possible.

The left kidney has a normal shape and size (4.5 cm). 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. Pyelectasia was noted and measured 0.42 cm. There is no evidence of nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

The right kidney has a normal shape and size (4.64 cm). 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. Pyelectasia was noted and measured 0.48 cm. There is no evidence of nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.7 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 right adrenal gland is normal in size measuring 0.65 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.

**Spleen**

The spleen is normal in size and mottled. There is a 0.51 cm hypoechoic nodule that is visualized in the splenic parenchyma.

**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. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

### ***Gastrointestinal***

The stomach contains minimal luminal contents. The wall appears to have intact layering and large appears normal. In some areas there is the subjective appearance of mild gastric wall thickening. Measurements include 0.38 cm and 0.47 cm. No focal lesions are 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. 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. 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 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.

### ***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.

### ***Heart***

A brief view of the heart was submitted. No pericardial effusion was seen.

## **ULTRASONOGRAPHIC FINDINGS**

### **PRIMARY FINDINGS:**

- Decreased corticomedullary distinction in both kidneys with bilateral pyelectasia. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia in the kidneys could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Mottled spleen with hypoechoic nodule. The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Pinpoint, small, mineralization deep in the pelvic canal. The appearance is suspicious for a urethral stone or mineralization (approximately 3.5-4.0 cm deep) although mineralization of the uterine stump cannot be ruled out.

### **SECONDARY FINDINGS:**

- Prominent mottled pancreas. The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

- Subjectively prominent gastric wall. The stomach wall thickening could be consistent with inflammation, edema, infiltrative neoplasia, imaging artifact due to rugal folds, other.

### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

An obvious cause for the diarrhea and decreased appetite is not definitively identified on today's exam. There are numerous lesions, but some could be normal in this older individual.

Both kidneys have decreased corticomedullary distinction and renal pelvic dilation. Some of this could be due to diuretic therapy and age, but I recommend urinalysis and culture as well as current blood work with renal values and electrolytes.

Additionally a small mineralization was noted deep in the pelvic canal. This could be a small urethral stone. Provided it is intraluminal it should be small enough to pass. Alternately it could represent mineralization of the urethral wall or mineralization of the uterine stump. I recommend a free catch urine sample to look for evidence of inflammation, blood, etc. Consider a rectal exam to see if this can be palpated and correlate with abdominal radiographs although this area may be difficult to see on plain films. If a free catch urinalysis appears normal, culture is normal, etc. then monitor for any signs of lower urinary tract disease and consider a recheck with an ultrasound and a full bladder in 4-6 weeks.

The spleen appears somewhat mottled with a hypoechoic nodule. A FNA aspirate could be considered to rule out the likelihood of an underlying neoplastic process.

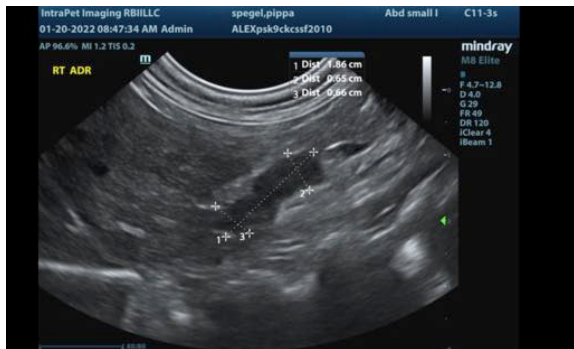
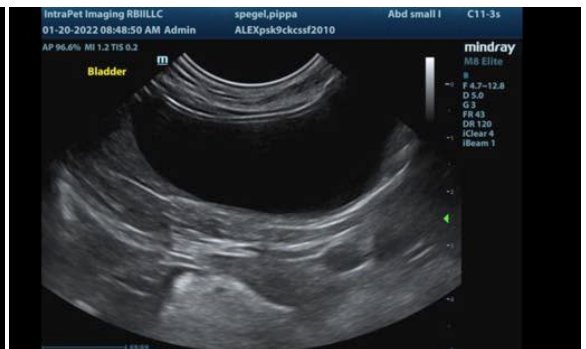
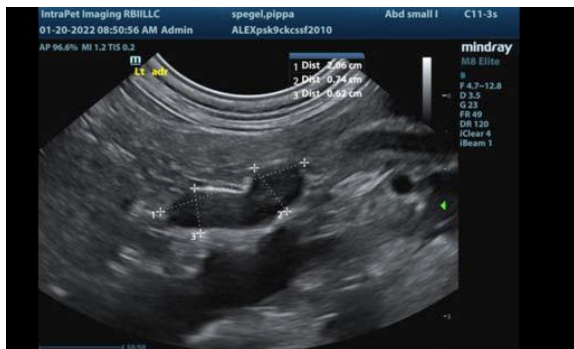
The pancreas appears somewhat prominent and the gastric wall while maintaining normal intact layering does appear somewhat prominent. This could be a normal variation with rugal folding, but if symptoms progress and no other cause for inappetence is identified this could be reevaluated with ultrasound or upper GI endoscopy.

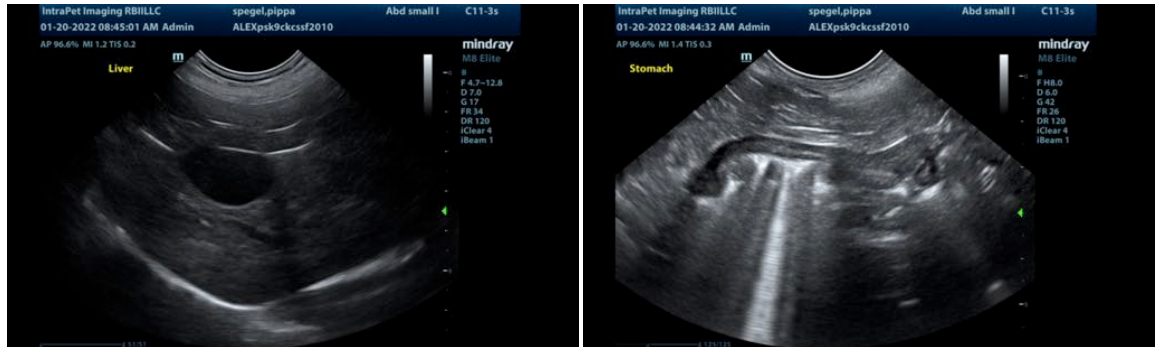
No large bowel or small bowel changes were observed in relation to the diarrhea reported. Unfortunately there are many causes for diarrhea which cannot be diagnosed by ultrasound along.

- Consider a GI panel to Texas A&M with qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreas and small intestine.
- I recommend probiotic therapy.
- Consider novel protein/hydrolyzed protein prescription diet.
- If symptoms are progressing or not improving with the diet change and symptomatic therapy then consider obtaining GI biopsies.

With patient's on multiple medications always correlate the possibility of medications causing an upset stomach, dehydration, electrolyte imbalances, etc.







The information and recommendations provided are based on the images presented by the referring veterinarian. 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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