



**PATIENT**

Nohea Frieland

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Neutered Male

**AGE**

13 Years

**WEIGHT**

4 kg

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Dr. Callihan

**HOSPITAL NAME**

Pacific Crest Mobile

**REFERRING VET**

Dr. Johnson –  
Advanced Care AH

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**DATE**

11/2/22

**PRESENTING CLINICAL SIGNS**

Presented to primary care vet on 10/20/22 for annual exam, only concern owner reported was weight loss and vomiting hairballs ~ 2x/week Current meds: Laxatone, Royal Canin Urinary SO diet Abnormal PE/Chem/CBC/UA Results: PE: a little thin, grade 2/4 dental disease, otherwise unremarkable CBC: wnl other than HCT 23% Chems: BUN high normal 38, Cr mild elev 2.5 T4 is mild elev 2.4 UA: isosthenuria 1.024, no protein and quiet sediment

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with incidental suspended lipid in a cat, possibly combined with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (3.76 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. Pyelectasia is noted measuring 0.24 cm in the transverse view. There is no evidence of mineral or infarcts observed.

The left kidney is normal in size (3.52 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 right adrenal gland is normal in size (0.28 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.38 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**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 stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.



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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 change is most appreciated in the ileum. The lumen is empty with no evidence of obstruction or foreign material.

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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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Pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and has a mildly irregular undulating contour. Parenchyma is coarse with mixed echogenic remodeling noted. Pancreatic duct dilation is noted.

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**Free Abdomen**

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

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The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

**PRIMARY FINDINGS**

- **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.
- **Mild pyelectasia in the right kidney** – Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction
- Chronic active pancreatitis
- **Reactive mesenteric lymph nodes** – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

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**SECONDARY FINDINGS**

- Urinary bladder debris

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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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Ideally, biopsies of the GI tract, being sure to include ileum if possible, are recommended to definitively diagnose and therefore manage the infiltrative bowel disease.

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If biopsies cannot be obtained, empirical therapies could include a diet change to a hydrolyzed protein diet. However, given this patient's kidney disease, a kidney diet may be more indicated than a hydrolyzed protein diet. The best diet for the patient should be decided based on response, clinical signs, laboratory changes, etc.

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Additionally, given the evidence of kidney disease, a blood pressure is recommended if not recently evaluated.



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Given the mildly increased or grey zone total T4, a free T4 could be considered to rule out hyperthyroidism as a contributing factor as well.

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Empirical deworming with a 5-day course of Panacur is recommended. Cobalamin supplementation is recommended unless not indicated based on GI panel results. While Prednisolone could be considered empirically, Prednisolone could potentially result in exacerbation of the chronic kidney disease and should be used cautiously. Additionally, a probiotic such as Visbiome or Provable could be considered.

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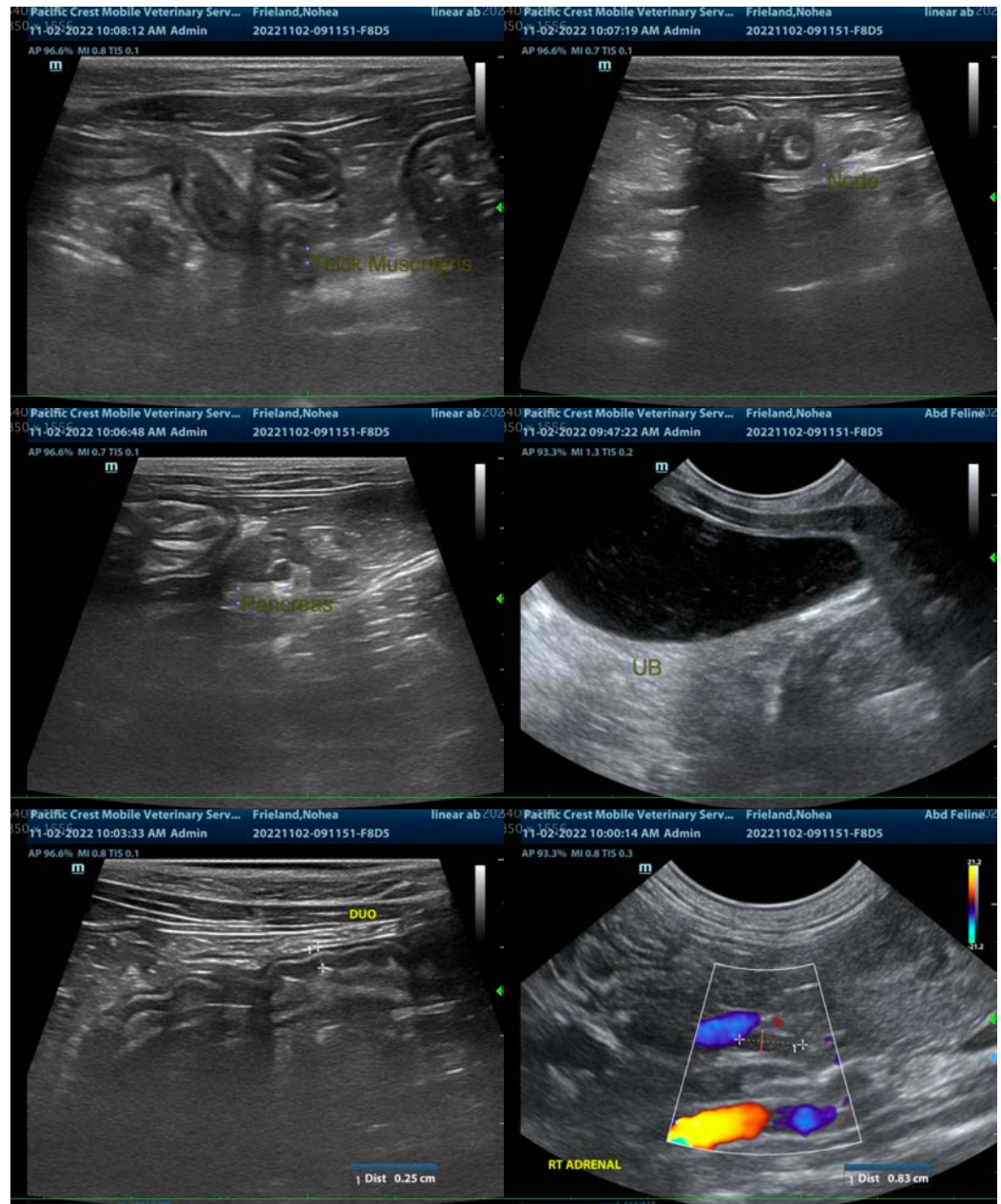
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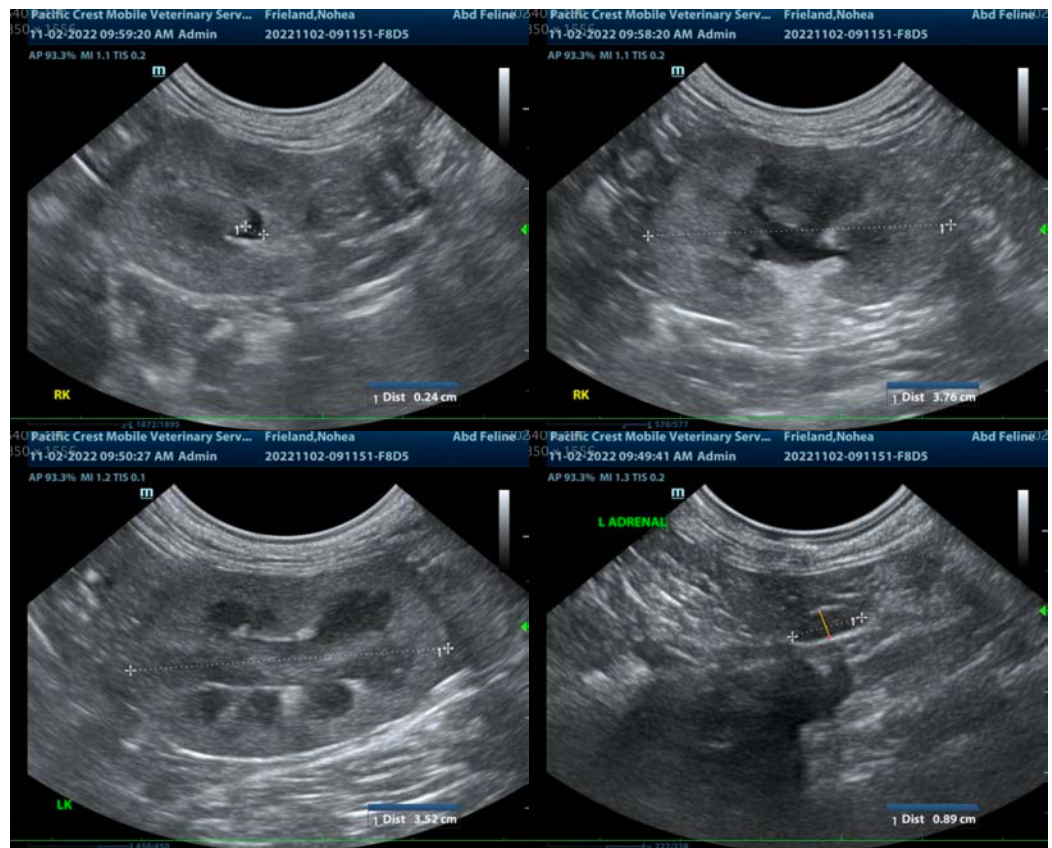
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
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