



**PATIENT**

Bella DeLeo

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

3.55 kg

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Dr. Lemanski

**HOSPITAL NAME**

Animal Emergency  
Hospital Deland

**REFERRING VET**

Dr. Schwanebeck

**INVOICE**

46031

**DATE**

3/22/23

**PRESENTING CLINICAL SIGNS**

Patient originally presented to clinic 3/3/23 for straining to urinate. Patient dx with UTI (WBC, RBC, Cocci) and treated with Clavamox. Azotemia present on original bloodwork (BUN 47, Creatinine 2.63). Presented today to recheck urine and kidney values - UTI cleared up but Azotemia still present (BUN 47, Creatinine 2.46). US recommended to check kidneys.

Abnormal PE/Chem/CBC/UA Results: BW stated above in hx. No bladder stones on radiographs.

**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 overall normal in size (3.3 cm) and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortex are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of mineral or infarcts observed. Pyelectasia of 0.26 is noted in the transverse view.

The left kidney is small (2.7 cm), irregular and diffusely echogenic with decreased corticomedullary distinction and poor visualization of internal architecture. No mineral is observed. Pyelectasia measuring 0.32 cm in the transverse view is noted.

**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 intestines are normal in wall thickness and layering. Hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). 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.

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**Pancreas**

Pancreas is prominent in size with swollen irregular contour. Parenchyma is heterogenous characterized by hyperechoic tissue remodeling intermixed with ill-defined hypoechoic nodules. There is no visible pancreatic duct dilation. Enhanced surrounding mesenteric fat is noted.

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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**

**AGE**

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- **Mucosal speckling** – Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state.

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- **Pancreatic nodular hyperplasia** – Infiltrative neoplasia cannot be ruled out but is considered less likely. Low-grade smoldering chronic pancreatitis, or, given the enhanced surrounding fat, even acute on chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

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- **Chronic Kidney Disease with mild bilateral pyelectasia** – This appearance of the kidneys is consistent with chronic kidney disease such as chronic glomerular or interstitial nephritis, chronic pyelonephritis, etc. Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Recommendations for this patient depend primarily on clinical signs. Given the suspicion for chronic kidney disease, if there is proteinuria present in an otherwise quiet urine sediment, purine quantification via a urine protein to creatinine ratio is recommended. Additionally, if not recently evaluated, a blood pressure is recommended.

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In the meantime, medical management of chronic kidney disease is recommended, beginning with a kidney friendly diet if tolerated, as well as supportive/symptomatic medical management of clinical signs, proteinuria, hypertension (if present), electrolyte abnormalities, etc.

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Additionally, given the pancreatic and bowel changes, especially if concurrent gastrointestinal signs are present in this patient, further evaluation of the GI tract and pancreas is recommended, beginning with a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory.

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A fine needle aspirate of the pancreas could be considered if patient's coagulation status is appropriate, or a conservative approach could be elected in the form of monitoring with a recheck of the pancreas in 4-6 weeks.



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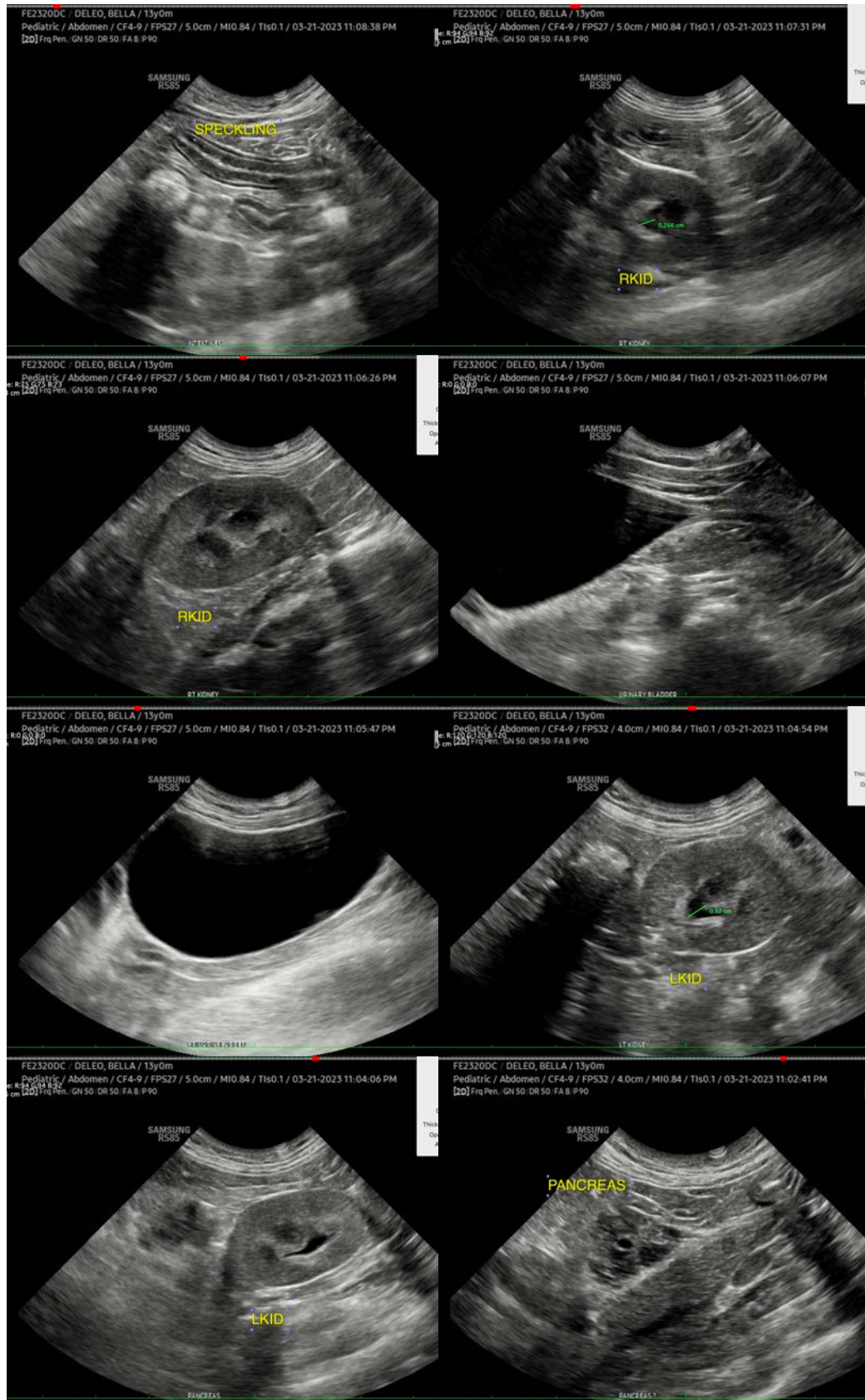
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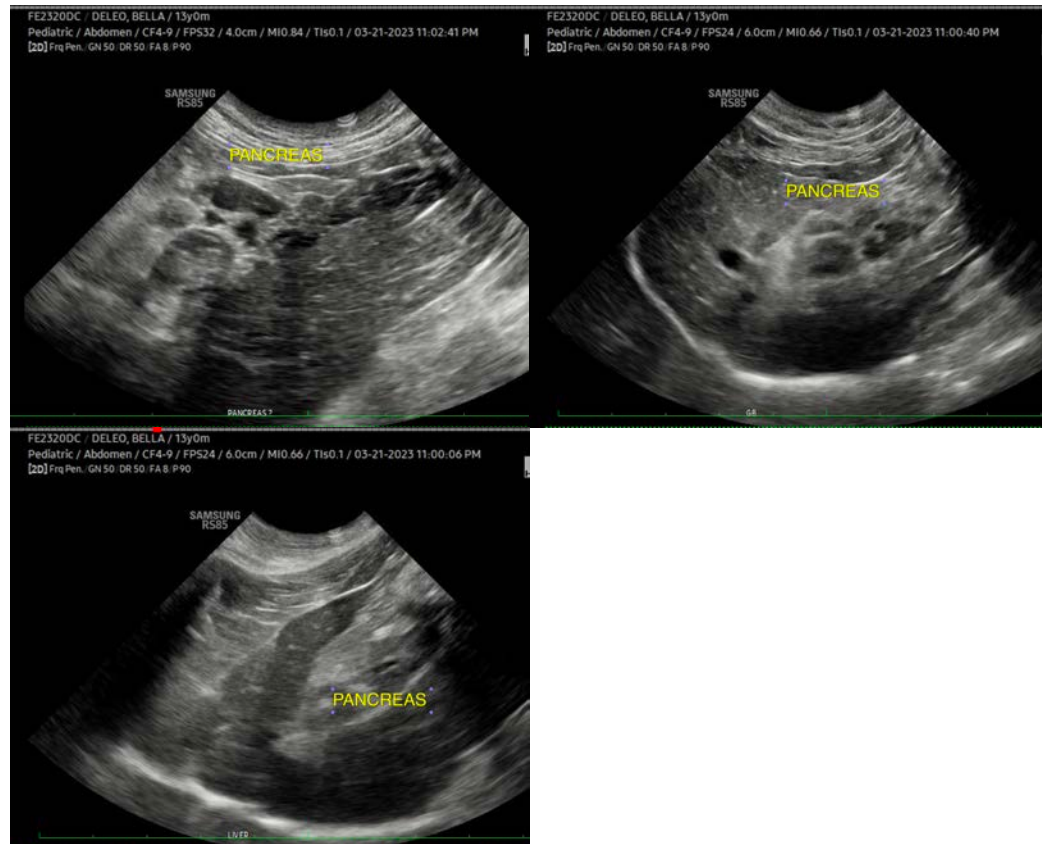
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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