



PATIENT

Pippin Pierson

SPECIES

Canine

BREED

Border Collie

SEX

Female

AGE

8 Years

WEIGHT

43.2 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Jessica Bailes

HOSPITAL NAME

All Creatures Great &
Small Clinic, Corvallis,
OR

REFERRING VET

Dr. Brent Sadahiro

INVOICE

21634

DATE

3/13/23

PRESENTING CLINICAL SIGNS

History: acute onset PU/PD w/ weight loss - diagnosed diabetic. Initially improvement in weight after initial tx but then became PU/PD again and now showing potential insulin resistance over the last month despite increases in insulin. Unknown heat cycle

Abnormal PE/Chem/CBC/UA Results: Rapidly developing diabetic cataract in OS, somewhat pendulous abdomen, otherwise NSF on PE BW/UA: CHEM: AST elevated 125 (15-66) Bun/Creat Ration 33 Hyperglycemia 392 (diabetic) Hypomagnesaemia 1.3mEq/L Hypercholesterolemia 490 (92-324) Increased Triglycerides 965 (29-291) PSL Elevated 429 (24-140) CBC Thrombocytosis 678 UA: SG: 1.041 Prot 2+ UPC 2.3 Ketone 3+ Gluc 2+

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 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.

Left kidney is normal in size (7.16 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. A hyperechoic band parallel to the corticomedullary border is present.

Right kidney is normal in size (7.69 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. A hyperechoic band parallel to the corticomedullary border is present.

Adrenal Glands

Left adrenal gland is normal in size (2.63 cm long x 0.27 cm at cranial pole and 0.47 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (3.0 cm long x 0.32 cm at cranial pole and 0.37 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Spleen

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

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal



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lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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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.

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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.

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The visible small intestine is diffusely mildly thick with a relatively thick mucosa compared to other layers. Normal wall layering is preserved; however, hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease. The duodenum measured approximately 0.6 cm – 0.7 cm thick.

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The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

Pancreas

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The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

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There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

Other

Both ovaries and uterus are visualized without evident ovarian/uterine pathology.

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ULTRASONOGRAPHIC FINDINGS

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Primary Findings

- 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.
- Hyperechoic hepatomegaly- This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.

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Secondary Findings

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- Urinary bladder debris
- Medullary rim sign - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be

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interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This patient has some ultrasonographic suggestion of infiltrative bowel disease, possibly inflammatory bowel disease, even protein losing enteropathy. Therefore, recommendations include a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory, for further evaluation of GI and pancreatic function.

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Ideally, biopsies of the GI tract are recommended to definitively diagnose and therefore manage the infiltrative bowel process.

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If biopsies cannot be obtained safely due to low albumin or patient stability, etc., empirical therapies could include diet change to an ultra-low-fat diet, empirical deworming with a 5-day course of Panacur, cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) a probiotic and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.). Calcium monitoring, and supplementation, if necessary, is also recommended.

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Additionally, if patient's coagulation status is otherwise appropriate, antithrombotics such as clopidogrel or low dose aspirin may also be warranted.

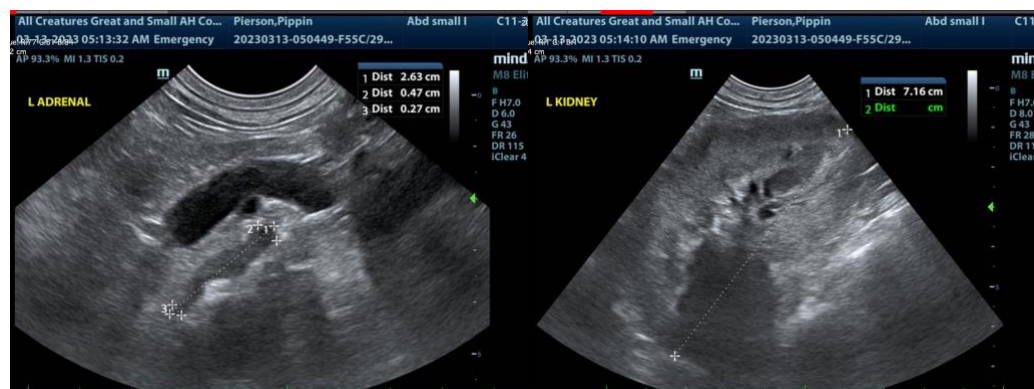
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Given the lack of reported gastrointestinal signs, however, the appearance of the bowel may be an incidental finding, or even normal patient variant given the postprandial state, and the reported insulin resistance related instead to this patient being an intact female. Therefore, if the diabetes cannot be adequately managed, ovariohysterectomy should be considered.

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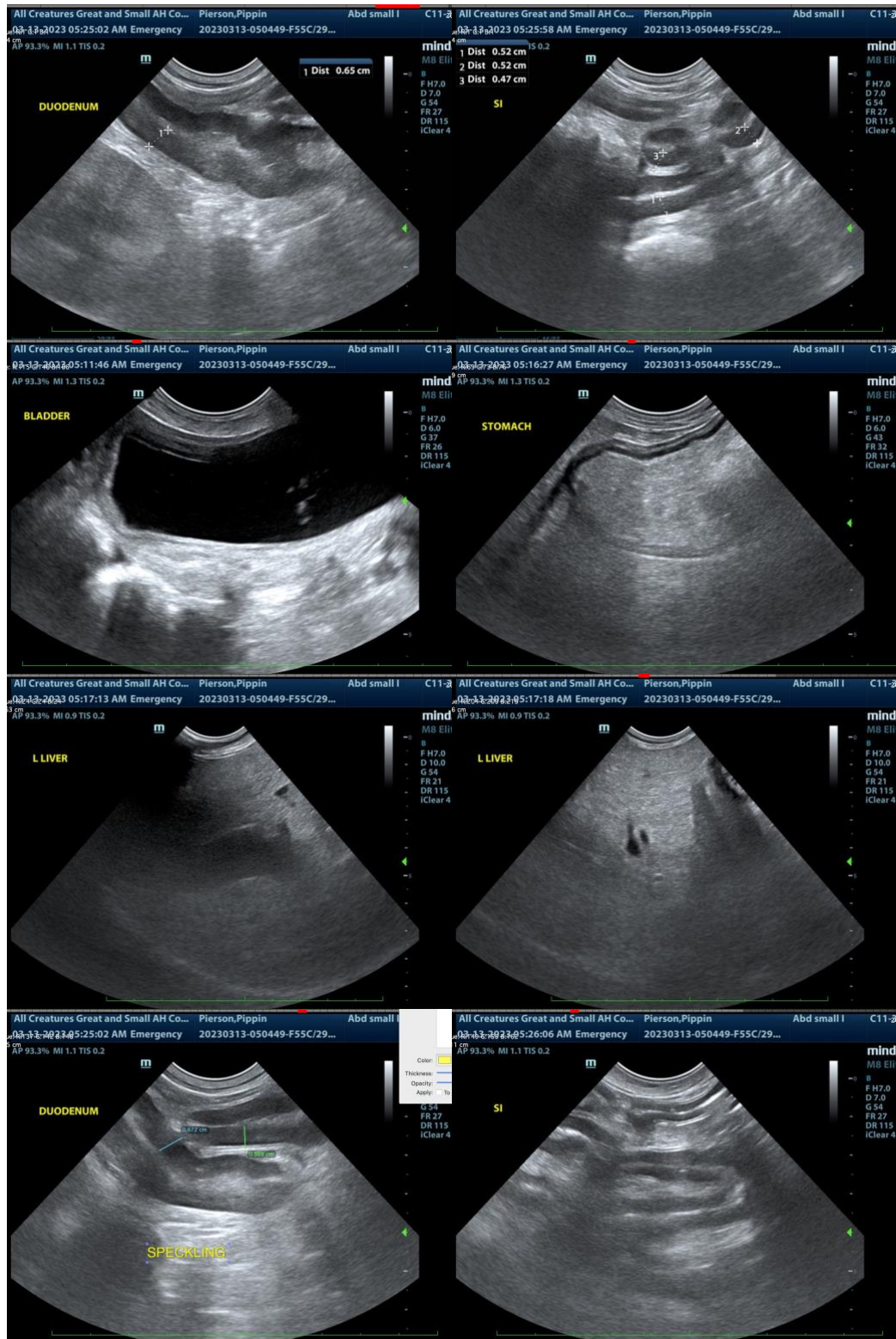
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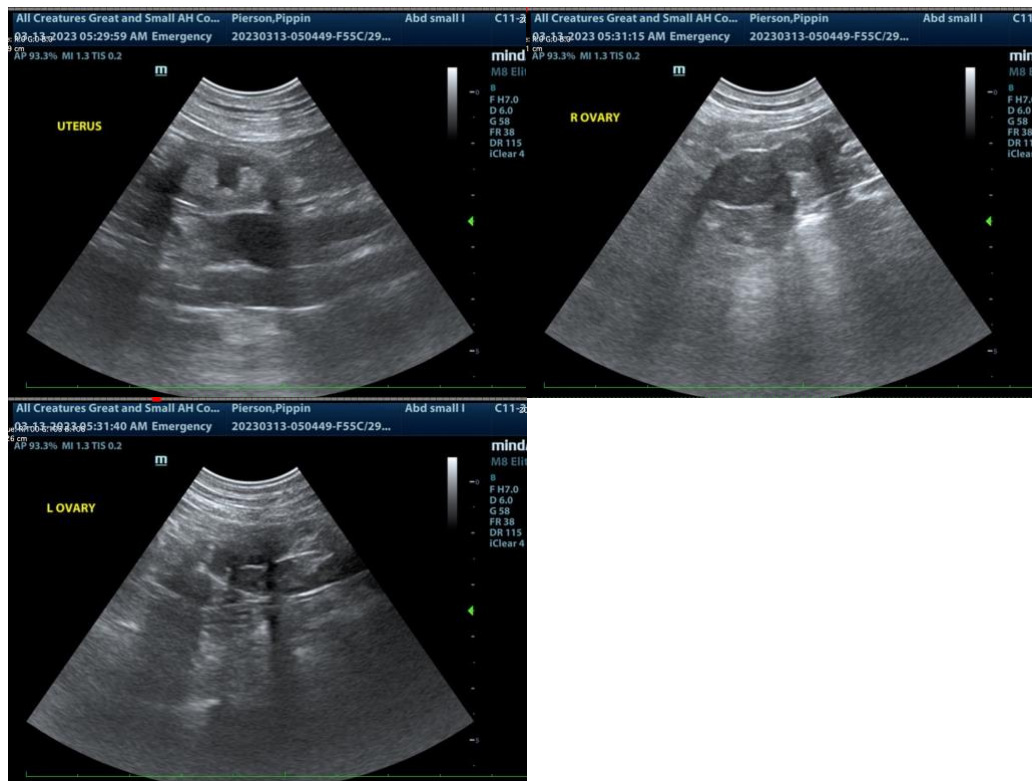
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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