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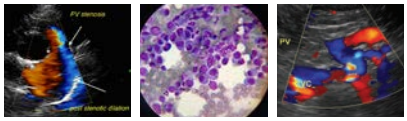

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DATE

12/8/21

PATIENT

Zorro Royer

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

8/11/06

WEIGHT

8.3 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Westminster VH

REFERRING VET

Dr. Hall

INVOICE

33347

PRESENTING CLINICAL SIGNS

History: Pet presented on 11/1/21 for a 24-36hrs history of lethargy the week prior to being seen. Pet was not eating during this event either. On PE pet was noted to have had 0.25lbs of weight loss; mild to moderate dental tartar; no other abnormalities noted. With pet's history of chronic renal disease recheck bloodwork was completed. Significant elevation in the lipase, possible pancreatic flare up caused pet's symptoms the week prior, recommended a spec cPL as well as UPC for proteinuria. Spec cPL confirmed pancreatitis and UPC could not be completed (see bloodwork section). Due to pet's recurrent pancreatitis (seen at the ER for pancreatitis 06/2021) owner opts for abdominal US for pet.

Current Medications: Denamarin Advanced small/med dogs 1/4 tab SID-started 01/2019; Enalapril 2.5mg PO BID started 02/2019; Tacrolimus BID started 06/2021; SQ LRS Twice weekly started 07/2021; Hills k/D diet started 07/2021.
Lab Results: 11/1/21: CBC: platelets appear increased on blood film; Chem: elevated SDMA 17ug/dL (0-14); elevated BUN: 76mg/dL (9-31); Globulin 4.5g/dL (2.4-4.0); Lipase 791U/L (0-250); UA: USG: 1.019; 3+ proteinuria; TT4: 2.2. 11/2/21: spec cPL 670ug/L (0-200). 11/6/21: UA with reflex UPC: USG: 1.019; 3+proteinuria; 3+ hematuria; 3+ epithelial cells; 1+ hyaline casts-UPC could not be completed due to the hematuria. Attached separately.
Date of Previous IntraPet Ultrasound: 4-18-2018; 1-8-2014.
Sedation: Gabapentin.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is 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 prostate is normal in size (0.52 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (4.51 cm) with numerous cortical cysts and pyelectasia at 0.26 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. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.53 cm) with numerous cortical cysts (the largest measuring 0.85 cm) and pyelectasia at 0.40 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. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 1.46 cm at the cranial pole, 0.82 cm at the caudal pole, and 3.14 cm in length. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance in that there is a hyperechoic nodule at the cranial pole measuring 1.59 cm x 1.61 cm. There is no obvious evidence of vascular invasion. This nodule was previously seen in 2018 and appears larger (previous measurement 0.78 cm x 0.52 cm).

The right adrenal gland is normal in size measuring 0.51 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 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.

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 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 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. 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 large and hypoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is evidence of regional mesenteric inflammation. Consistent with mild/moderate pancreatitis.

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.

ULTRASONOGRAPHIC FINDINGS

- Decreased corticomedullary distinction in both kidneys with numerous cortical cysts and bilateral pyelectasia – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the left/right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Left adrenal nodule – This mass was visualized in 2018 and appears to be significantly larger today. Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.

- Hypoechoic pancreas with surrounding hyperechoic mesentery – The pancreatic changes are most consistent with mild/moderate pancreatitis/pancreatic inflammation. Recommend fPLI testing and

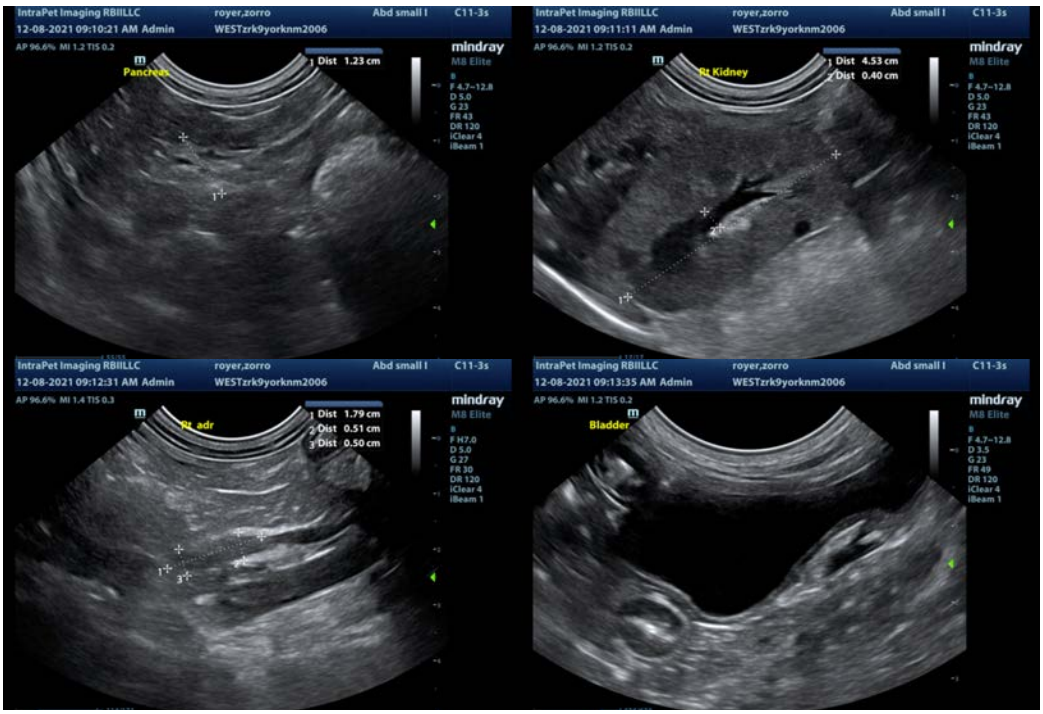
continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.

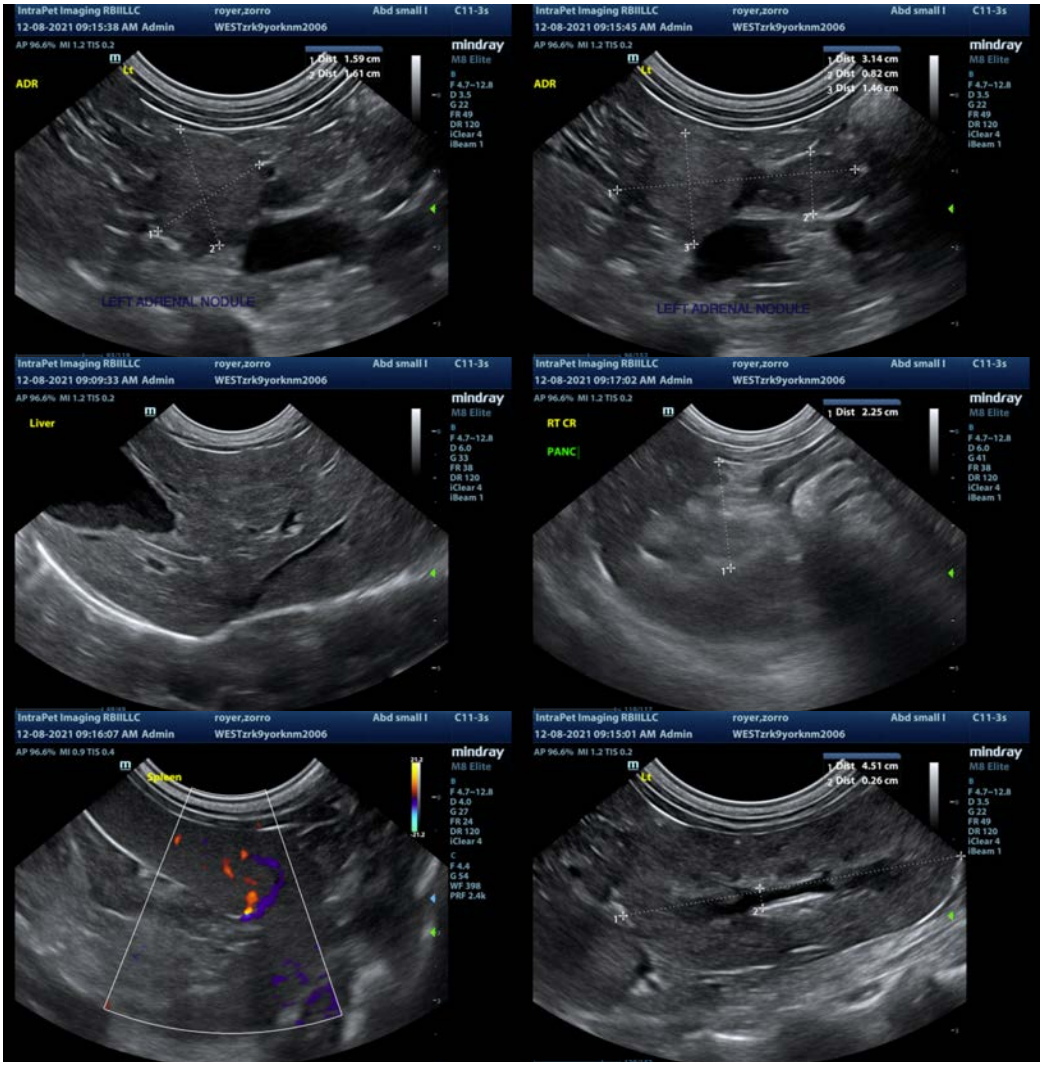
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pancreas is prominent and there does appear to be hyperechoic mesentery surrounding. This is most consistent with mild to moderate pancreatitis. Recommend a low fat diet and supportive GI therapy. Considering the underlying renal disease, IV fluids and medications may be indicated.

The changes observed in the kidneys are consistent with chronic progressive renal disease, and the pyelectasia could be consistent with pyelonephritis. Recommend urinalysis and culture and possible diuresis if the patient is not feeling well. Additionally, recommend a blood pressure evaluation.

There is a nodule visualized in the left adrenal gland. It is approximately twice the size of its previous measurement in 2018, but still appears relatively encapsulated, etc. If there are no symptoms of Cushing's disease, I suspect this is a relatively slow growing mass (possible adenoma?). Surgical removal and workup for an adrenal tumor could be considered, but considering the age of this patient and the likely lack of related symptoms, this could be an unrewarding procedure. Recommend blood pressure evaluation. If there is no infection, or the infection is cleared, and urine protein levels persist as elevated, then recommend reevaluation of the current therapy for proteinuria and glomerulonephritis.





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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