

PATIENT

Lincoln Orlando

SPECIES

Canine

BREED

Mixed

SEX

Neutered Male

AGE

8 years

WEIGHT

62 lbs

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Newton VH

REFERRING VET

N/A

INVOICE

12785

DATE

4.18.23

PRESENTING CLINICAL SIGNS

History: weak, anorexic, vomiting, azotemic, hx of addisons, seizure on 4/17; on IVF, Dex SP, unasyn, dextrose 50% IV given

Abnormal PE/Chem/CBC/UA Results: BG 26, BUN 50 , crea 4.2, phos 10.3, TP 5.2, Tbili 1, K+ 55

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 (6.44 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.

Right kidney is normal in size (6.24 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 left adrenal gland is small (flattened contour) and measures (1.48 cm long / 0.32 cm at cranial pole / 0.35 cm at caudal pole). Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The right adrenal gland is small (flattened contour) and measures (2.57 cm long / 0.93 cm at cranial pole / 0.32 cm at caudal pole). Corticomedullary structure is unremarkable. 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.

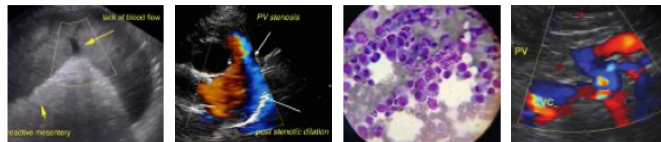
Liver

Liver is subjectively 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.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is markedly over-distended with fluid and echogenic non-shadowing luminal contents consistent with normal ingesta/chyme. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric



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outflow tract appears patent. Having said that, given the marked distention, a non-visible or partial outflow obstruction cannot be definitively ruled out.

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

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Pancreas

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

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

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ULTRASONOGRAPHIC FINDINGS

Findings

WEIGHT

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- Flat adrenal glands is consistent with this patient's history of hypoadrenocorticism.
- Marked gastric fluid-distention and mild small bowel fluid-distention and hyperperistalsis is consistent with gastric stasis, and potentially, gastroenteritis secondary to a metabolic disease, such as this patient's reported hypoadrenocorticism versus dietary indiscretion or intolerance, infection, parasitic protozoa disease, toxin, etc. An obstruction cannot be definitively ruled out, but is considered much less likely.
- Mild gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

INTERPRETED BY

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- Urinary bladder debris

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

REFERRING VET

N/A

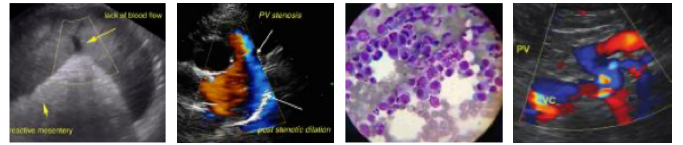
Given this patient's history, laboratory changes and ultrasound findings, the top differential for the acute presentation is an Addisonian crisis. If not recently evaluated, recommendations include further evaluation of azotemia via urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended; as well as an EKG due to the reportedly markedly increased potassium. In the meantime, aggressive supportive/symptomatic medical management of the suspected Addisonian crisis (as is reportedly already in place) with fluid therapy, dextrose supplementation (given the hypoglycemia), cortisol replacement, gastrointestinal support (with antiemetics, gastric protectants, etc.) is recommended. Additionally, if fluid support doesn't help resolve the hyperkalemia, and/or ECG results, suggests cardiac effects, more aggressive management of the hyperkalemia in the form of insulin therapy combined with the dextrose support, to help lower

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the potassium level and/or calcium gluconate as a cardio protective agent may be warranted. If insulin therapy is elected, given the already hypoglycemic state, very close monitoring of glucose levels is necessary.

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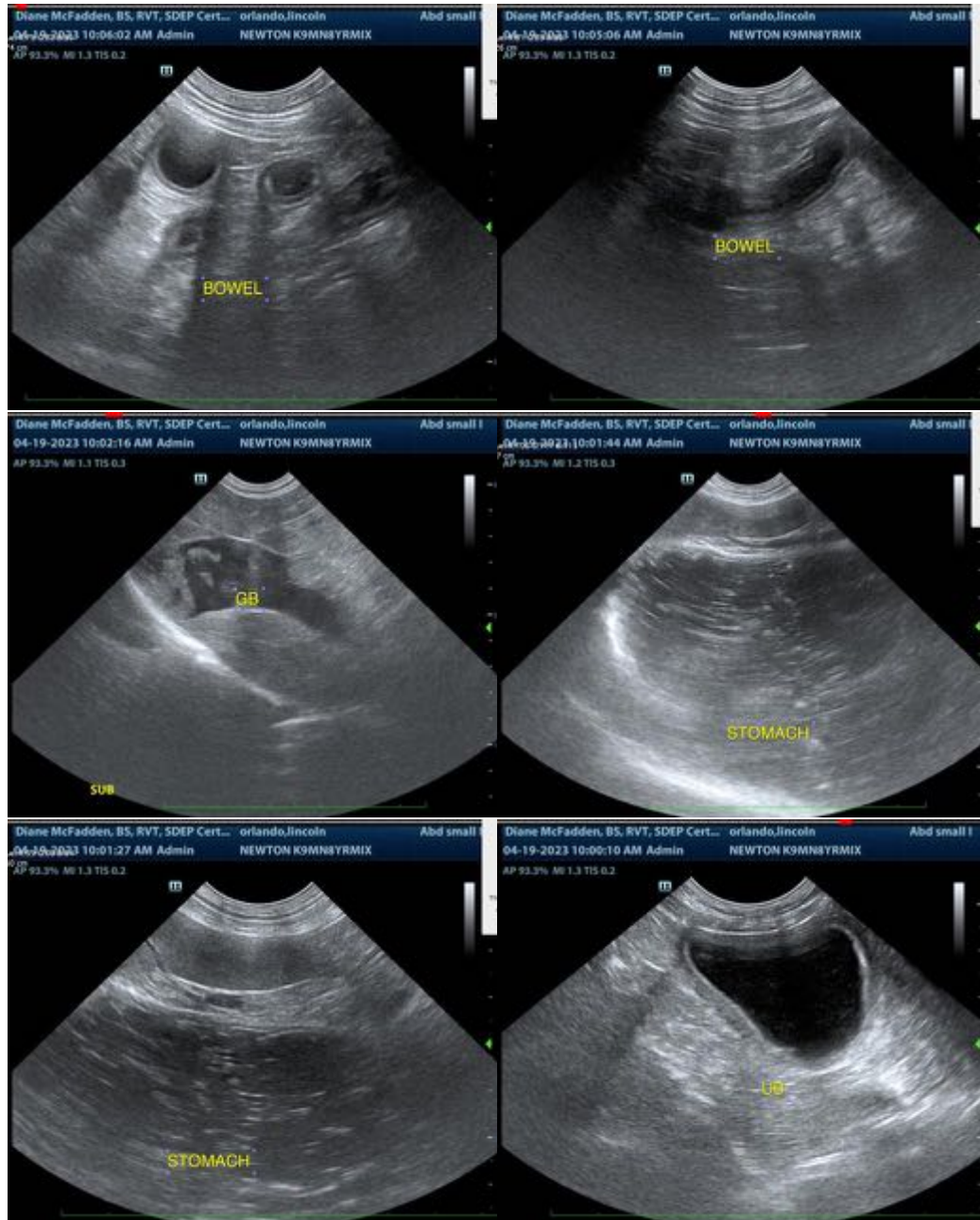
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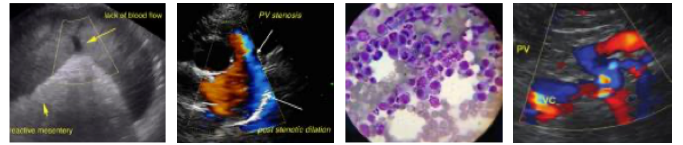
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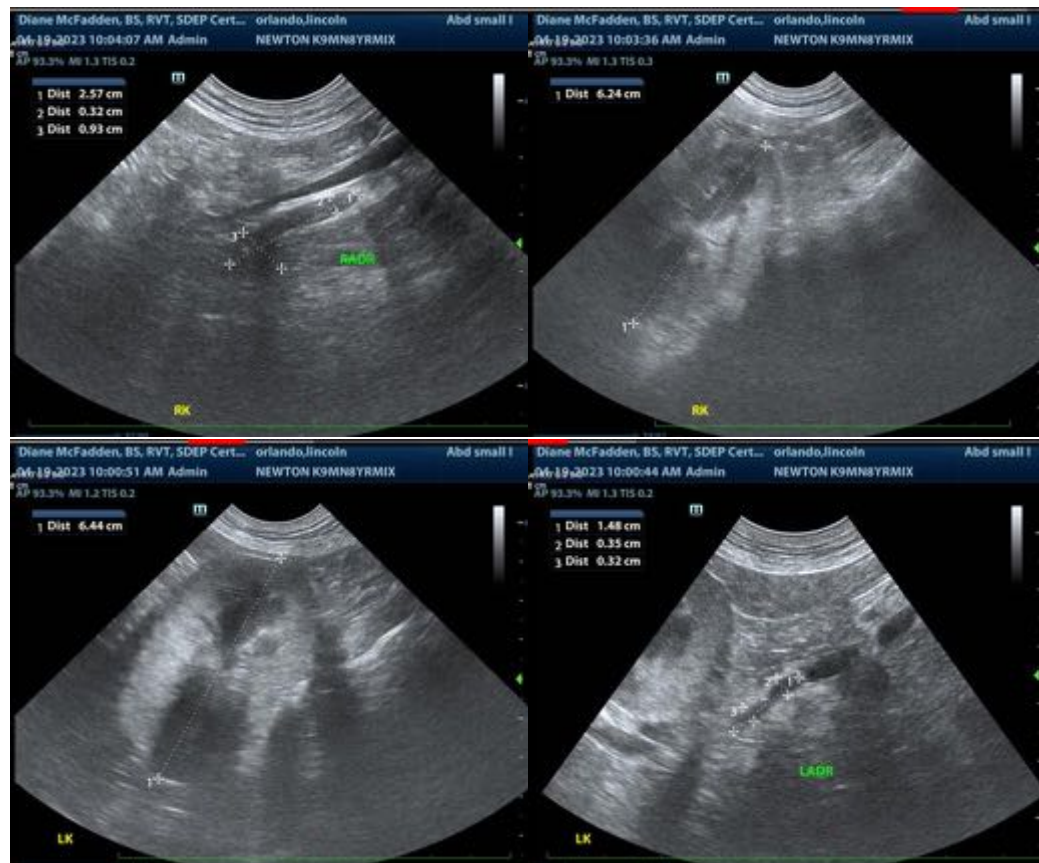
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Beth.Johnson@SonoPath.com