



PATIENT PRESENTING CLINICAL SIGNS

Lola Dickie

History: Previous suspected PLE. Recently inappetent, shaking, weakness and decreased protein levels noted. No meds currently.

SPECIES

Abnormal PE/Chem/CBC/UA Results: CBC normal, UreaBUN 11.3, Total protein low 45, Albumin low 21

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

BREED

Urinary System

Frenchie/English
Bulldog Mix

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

SEX

Spayed female

AGE

10 years

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.96 cm. The left kidney measured 4.7 cm.

WEIGHT

15 kg

Adrenal Glands

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

The right **adrenal gland** was uniform and measured 1.88 x 1.19 cm at the cranial pole at the cranial pole and 0.59 cm at the caudal pole. The left adrenal gland revealed swelling at the caudal pole with the nodule measuring 1.25 cm. This is most consistent with adenoma. The left adrenal measured 2.45 x 0.71 cm at the caudal pole and 0.65 cm at the cranial pole.

IMAGING PERFORMED BY

Crystal Hill, RVT

Spleen

HOSPITAL NAME

East Credit VH

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

REFERRING VET

Dr. Webster

Liver

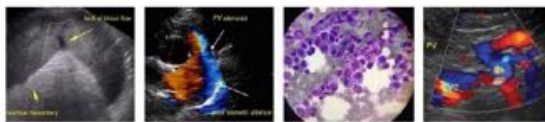
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The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

DATE

9/20/22



PATIENT

Gastrointestinal

Lola Dickie

The **gastrointestinal tract** revealed diffuse, hyperechoic fogging or overlay throughout the small intestine as well as areas of mucosal striations and speckling. This striation + fogging effect appeared to exclusively affect the mucosal layer with the submucosa, muscularis and serosa left in-tact. Reactive mesentery was present associated with the serosa indicative of active inflammation. This is most consistent with protein losing enteropathy/lymphangectasia. Full thickness biopsies or endoscopy guided biopsies would be ideal to confirm. No obstructive disease or obvious suspicion of neoplasia.

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Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

ULTRASONOGRAPHIC FINDINGS

Intestinal PLE pattern.

Left adrenal nodule.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Blood pressure measurements are warranted to assess for any hypertension that is related to the left adrenal gland. Differentials include adenoma, mild potential for emerging adenocarcinoma, pheochromocytoma. If no significant proteinuria is present then protein losing enteropathy is likely the primary cause.

Part or all of this protocol may be considered based on your clinical impression of the patient:

OBJECTIVE: keep albumin levels > 2 g/dl, avoid thromboembolism and cavitory effusions, monitor concurrent PLN (Wheaton Terrier PLE/PLN) and liver disease:

Plasma 10 mL / kilogram IV over 4 hours

Or **Human albumin** 2 ml/kg/h over 10 hours. Total daily volume 20.l/kg/day

And Colloids/Hetastarch

10 to 20 mL per kilogram per day and dogs

10 to 15 mL per kilogram per day cats

(Can bolus first 1/3 of dose over 15 minutes)

& maintain on LRS maintenance otherwise.

Metronidazole (10-20 mg/kg po bid)

Famotidine 1 mg/kg Iv Im po dc Sid /bid

Sucralfate 0.5-1 g po tid dogs, 0.5 g bid cats in slurry Or **Misoprostol** 1-5 ug/kg po tid

Diet: Highly digestible high quality protein, low fiber, low fat diet (< 15% of dry matter). Hydrolyzed protein or novel protein. Purina HA or Royal Canine HP or similar.

Prednisone or prednisolone 2 mg/kg bid x 3-5 days then 2 mg/kg sid. **Chlorambucil** in refractive severe IBD/alimentary lymphoma cases (monitor cbc for rare bone marrow suppression) 4 mg/m² Q 24-48 hours.

Cobalamin (B12) 250-1500 ug/dog weekly x 6 weeks.

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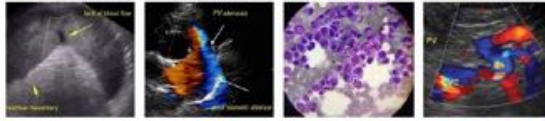
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Calcium supplementation if necessary.
Aspirin 0.5-1 mg/kg/day or Clopidrel (Plavix) 1-5 mg/kg/day.

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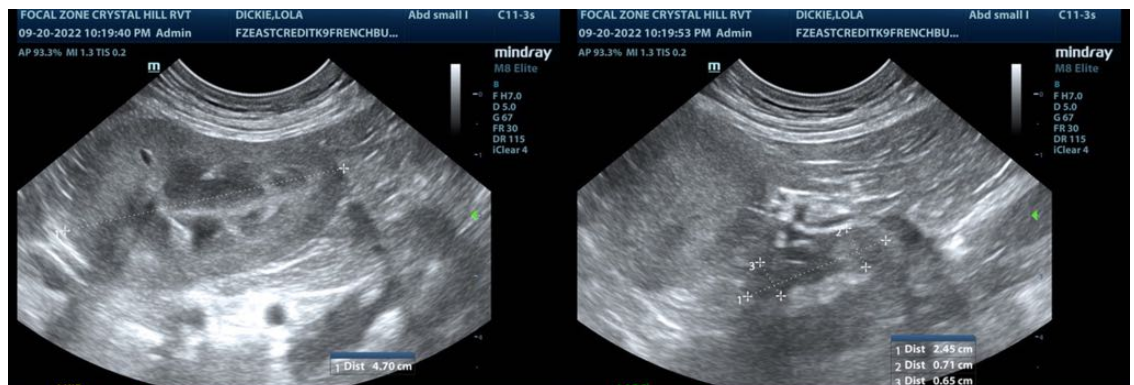
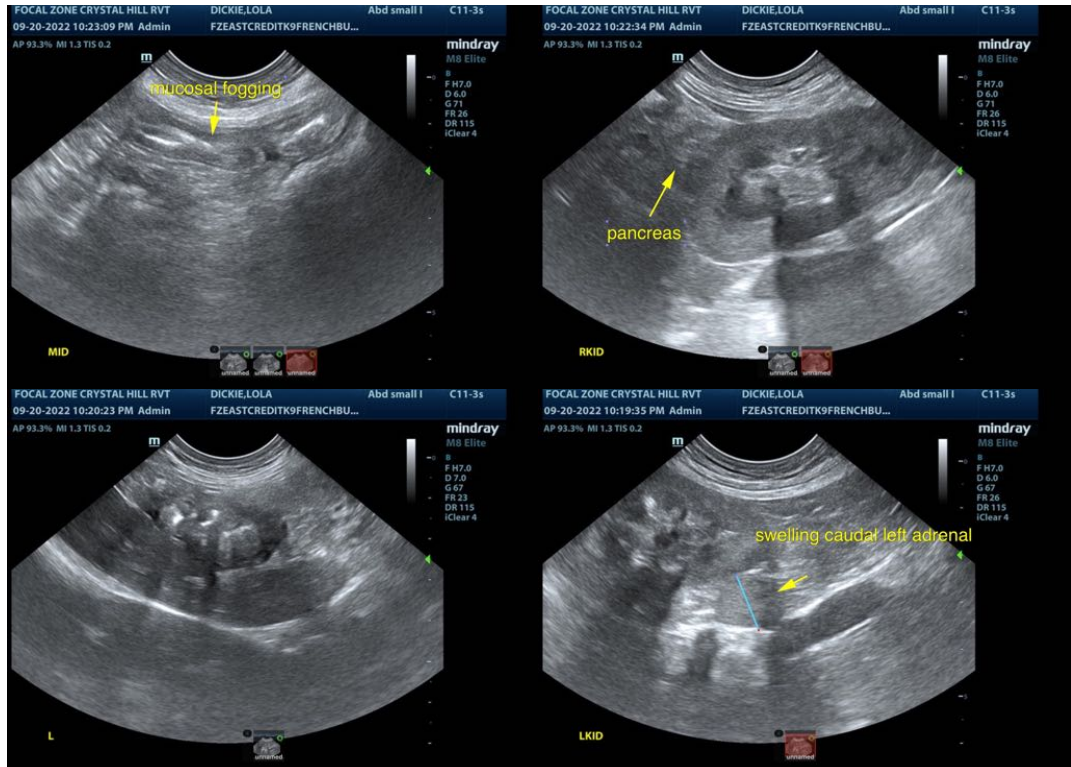
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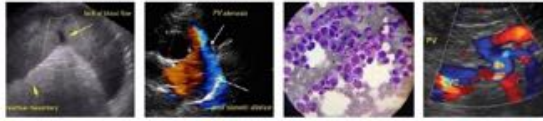
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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