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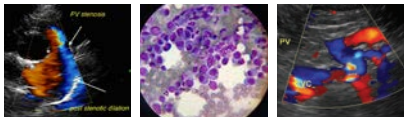
IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE

12/21/22

PATIENT

Clark Thompson

SPECIES

Canine

BREED

Cocker Spaniel

SEX

Neutered Male

AGE

1/24/08

WEIGHT

22.6 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Westminster VH

REFERRING VET

Dr. Hall

INVOICE

43636

PRESENTING CLINICAL SIGNS

Pet had routine senior exam on 8/9/22. At that time owner mentioned she had started noticing pet's hair thinning for a few months' duration. This was not uncommon for pet whenever his diet had been switched in the past and owner had to do it again, so she suspects it is associated with that. On PE pet was slightly underweight with an Ideal BW of 25lbs. Multiple small, pink, dermal masses noted over pet's entire body--all historic per the owner; semi firm, slightly movable SQ mass noted on the ventrolateral aspect of the mid thorax--new mass; Large pedunculated mass noted just ventral to pet's anus--historic and unchanged; Patient's haircoat is short over the entire dorsum--looks like pet was shaved--occasional long hairs noted throughout--skin normal. A grade 2/6 systolic murmur was appreciated--historic per the owner. Muscle atrophy noted over pet's entire dorsum as well. Bloodwork revealed mildly elevated SDMA but urine was well concentrated. It was recommended that a recheck renal panel be considered as well as possible abdominal US and cortisol testing. Owner phoned 12/5/22 that pet has more hair loss and is pot bellied in appearance. When called with results, owner reports that patient is lethargic most of the time and she thinks that he may have acid reflux as he will regurgitate food sometimes after eating. This does not happen often perhaps every couple of weeks. Pet occasionally is having diarrhea as well. Owner reports that patient has lost a lot of muscle mass as well.

Current Medications: Cosequin unknown duration

Lab Results: 8/9/22: CBC: Platelets: 564K/uL (143-448)-platelets clumped on blood film, platelets appear increased on the blood film. Chemistry: SDMA: 16ug/dL (0-14); Potassium: 6.1mmol/L (4.0-5.4); Albumin: 2.2g/dL(2.7-3.9); Creatine Kinase: 223U/L (10-200);
8/15/22: UA: first morning urine sample; USG: 1.036; pH: 5.5; remaining UA unremarkable. 12/7/22: CBC: RBC: 4.33M/uL (5.39-8.7);Hematocrit: 32% (38.3-56.5); Hemoglobin: 9.8g/dL (13.4-20.7);MCHC: 30.6g/dL (32.6-39.2); Reticulocyte Hemoglobin: 23.8pg (24.5-31.8); WBC: 19.9K/uL (4.9-17.6);Neutrophils: 14.925K/uL (2.94-12.67); Monocytes: 2.408K/uL (0.13-1.15); Platelets: 747K/uL (143-448). Scanning of the blood flm revealed adequate platelets numbers. Chemistry: SDMA: 18ug/dL (0-14); BUN: 39mg/dL (9-31); Phosphorus: 6.2mg/dL (2.5-6.1); Potassium: 6.0mol/L (4.0-5.4); Total Protein:5.2g/dL (5.5-7.5); Albumin: 1.9g/dL (2.7-3.9); Amylase: 2,045U/L (337-1,469); UA: USG: 1.025; pH: 5.5;Protein: trace; Blood: 1+; Epi Cells: 1+

Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

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 area of the prostate is examined without evident pathology.

The right kidney is normal in size (4.95 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. Pyelectasia noted at 0.29 cm in the sagittal view. There is no evidence of mineral or infarcts observed.

The left kidney is normal in size (7.93 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. Pyelectasia noted at 0.62 cm in the sagittal view. A large cortical cyst is noted in the cranial pole measuring 5.6 cm x 4.2 cm in size and displacing normal architecture. There is no evidence of mineral or infarcts observed.

Adrenal Glands
The right adrenal gland is normal in size (2.06 cm long x 0.73 cm at the cranial pole and 0.73 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (2.53 cm long x 0.59 cm at the cranial pole and 0.68 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

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
There is a sliver of normal appearing liver parenchymal cranially, and a normal appearing gallbladder. However, the entire mid caudal portion of the liver is a large 12+ cm x 15+ cm heterogeneous, mixed, cavitated mass that encompasses the majority of the abdomen, appears to wrap around the kidneys, and extends caudally to the level of the urinary bladder.

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 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.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). 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 visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas
The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen
There is a small amount of anechoic free fluid noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- **Large, heterogeneous, partially cavitated liver mass** – concerning for infiltrative neoplasia such as sarcoma versus hepatocellular carcinoma versus other. A benign lesion, abscess, hematoma, etc. is possible but considered less likely.

- **Concurrent free fluid** – Given this patient's reported anemia, this is concerning for possible hemoabdomen.

- Large, possibly complicated left renal cortical cyst

- **Bilateral pyelectasia –** Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.

- There is no visible evidence of gastrointestinal changes to suggest protein losing enteropathy. However, the size of the liver mass and displacement of normal anatomy somewhat limits the scan and could have masked subtle pathology.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

A fine needle aspirate of the liver mass could be considered if patient's coagulation status is appropriate, or alternatively, an exploratory laparotomy for planned mass debulking/removal could be considered. Resectability is difficult to comment on based on the size. A pre-surgical planning abdominal CT scan may be helpful if surgery is pursued.

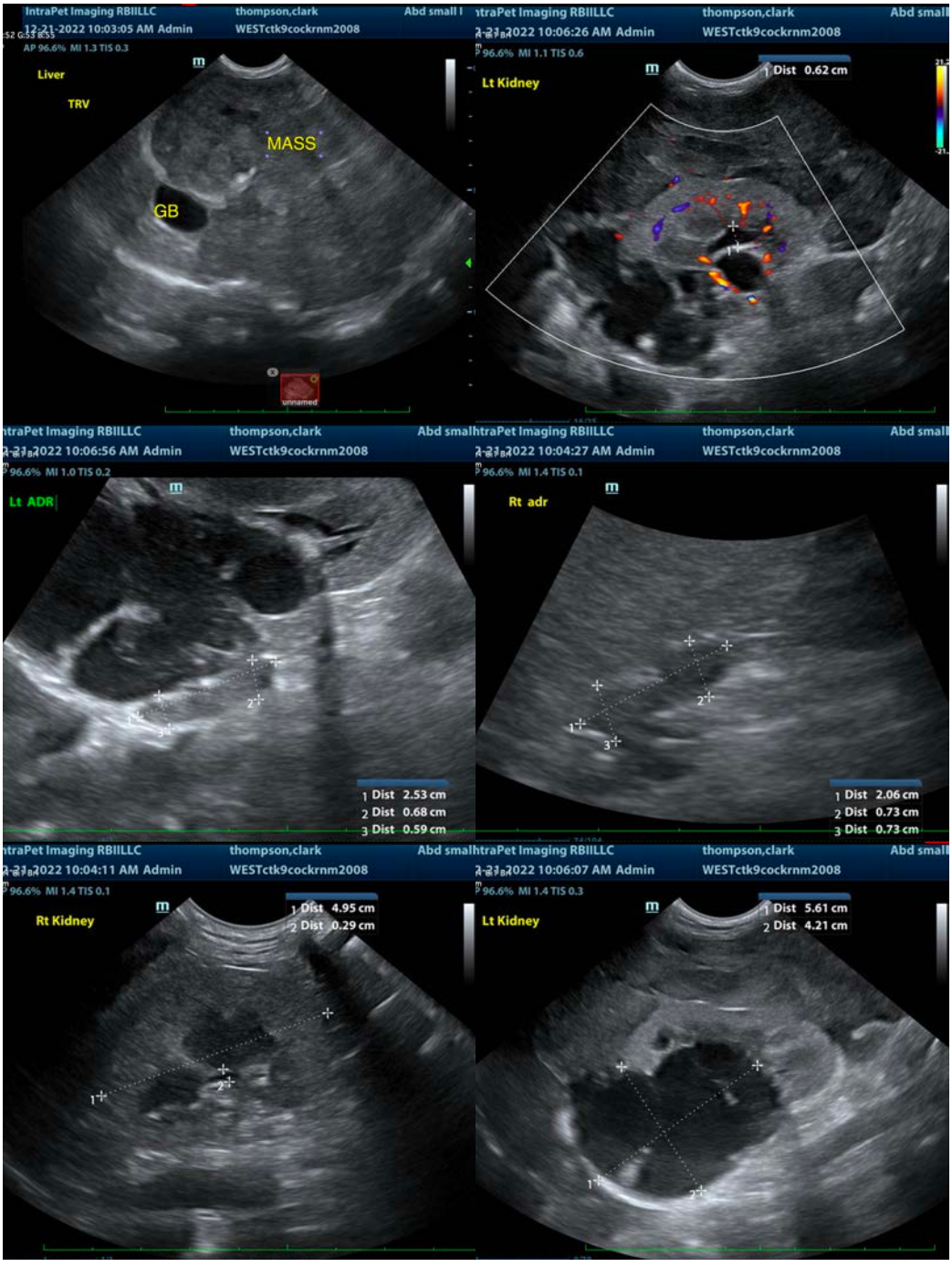
In the meantime, protein losing enteropathy (given this patient's reported diarrhea, etc.) is still possible, and further recommendations include:

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

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

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.

Additionally, a urine protein to creatinine ratio is recommended, given the reported trace proteinuria.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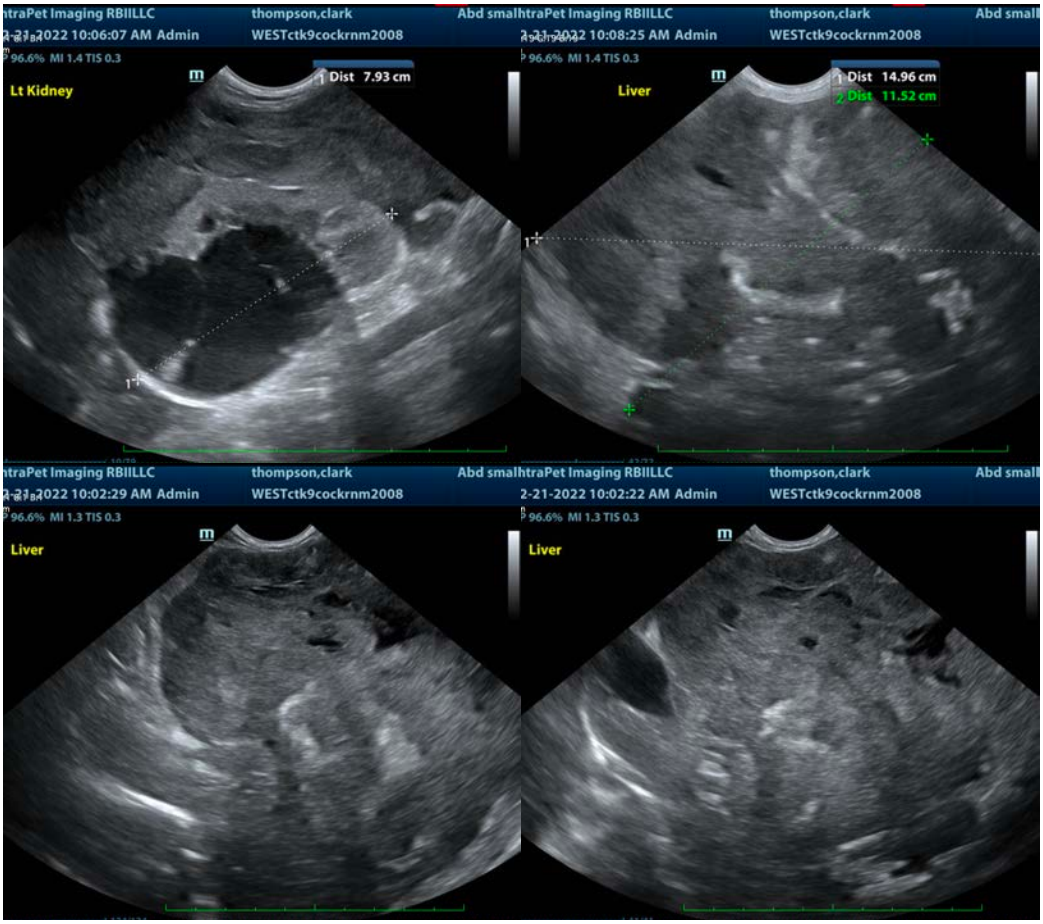
Liver
TRV
MASS
GB
Lt Kidney
1 Dist 0.62 cm
Lt ADR
1 Dist 2.53 cm
2 Dist 0.68 cm
3 Dist 0.59 cm
Rt adr
1 Dist 2.06 cm
2 Dist 0.73 cm
3 Dist 0.73 cm
Rt Kidney
1 Dist 4.95 cm
2 Dist 0.29 cm
Lt Kidney
1 Dist 5.61 cm
2 Dist 4.21 cm



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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