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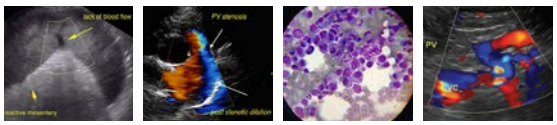

ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Bentley Chan

SPECIES
Canine

BREED
Yorkie X

SEX
Neutered Male

AGE
11 Years

WEIGHT
20 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
Santa Clara AH

REFERRING VET
Dr. Barbara Brasted-Maki

INVOICE
40322

DATE
8/10/22

PRESENTING CLINICAL SIGNS

Patient is clinically healthy. Grade 2/6 systolic heart murmur (recent echo - - > mitral valvular disease) Primary Question/Differential to Be Answered in This Exam Further work up for proteinuric renal disease, elevated Hct, elevated ALP.

Abnormal PE/Chem/CBC/UA Results: 07-22-22 Sr. Screen : CBC: Hematocrit 60.0, hemoglobin 20.8 Chemistries: Creatinine 1.7, BUN 63, unable to determine SDMA, phosphorus 7.1, potassium 6.0, sodium potassium ratio 24, ALP 418, cholesterol 410 Urinalysis: SG 1.023, protein 3+, 1+ hyaline casts and occasional granular casts T4: 1.4 UPC 6.7

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.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The left kidney measures 5.07 cm. The right kidney measures 5.39 cm. Small cortical cysts are noted bilaterally.

Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The left adrenal gland measured 2.19 cm long x 0.70 cm at the cranial pole and 0.77 cm at the caudal pole. The right adrenal gland measured 2.55 cm long x 0.95 cm at the cranial pole and 0.69 cm at the caudal pole.

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). Multifocal well-demarcated hyperechoic homogenous nodules are noted. 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 lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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.

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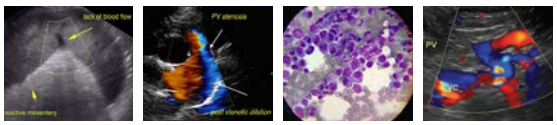

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Gastrointestinal

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, except for the proximal duodenum, which is near the upper end of normal thickness/mildly thick, measuring 0.55 cm thick. Hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). The lumen is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction or foreign material noted.

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 no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

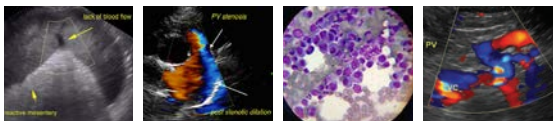
A subcutaneous mass is visible in these ultrasound images ventral to the urinary bladder.

PRIMARY FINDINGS

- **Bilateral adrenomegaly –** consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- **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.
- **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.

SECONDARY FINDINGS

- **Hyperechoic splenic nodules –** most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.
- **Age related kidney changes**



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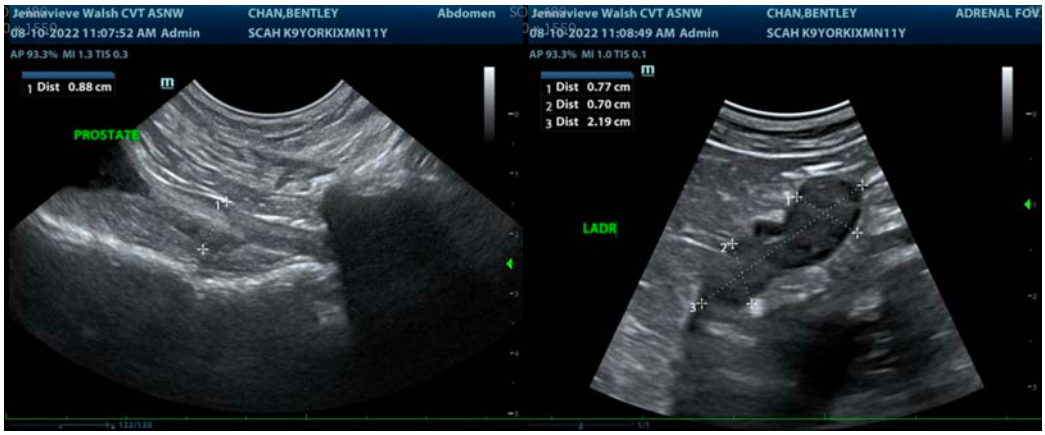
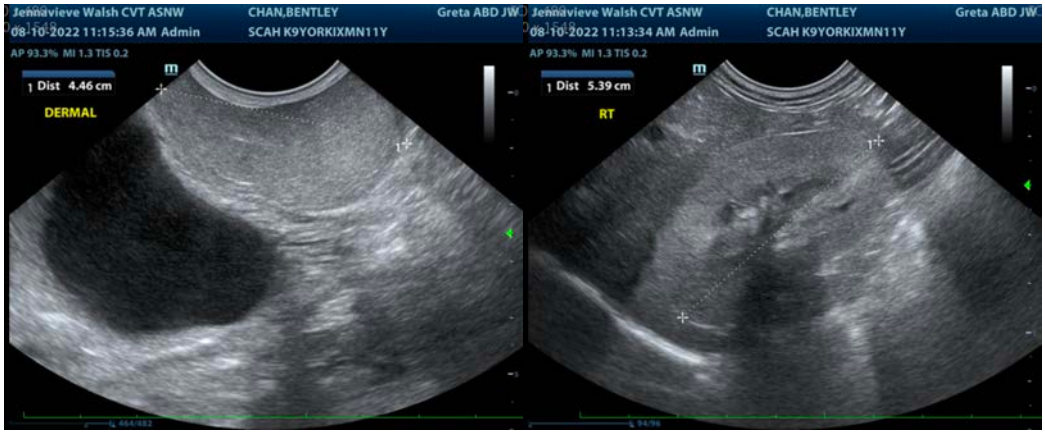
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

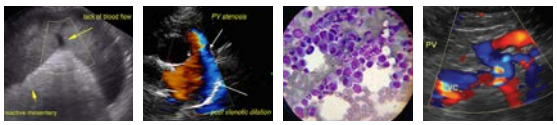
Given this patient's evaluation for reported protein losing kidney disease, a blood pressure is recommended if not recently evaluated. Comprehensive infectious disease testing including testing for Leptospirosis is also warranted.

Unrelated to the proteinuria, if there are gastrointestinal signs present in this patient such as weight loss, diarrhea, etc., further investigation of the mucosal speckling, beginning with a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory for further evaluation of GI and pancreatic function, may be warranted. However, without clinical signs, this may be a normal patient variant, post-prandial change, etc.

Similarly, given the reported proteinuria, if clinical signs of hyperadrenocorticism are present such as polyuria, polydipsia, polyphagia, panting, hair loss, etc., testing for hyperadrenocorticism as a possible contributing factor to the proteinuria, in the form of a low-dose Dexamethasone suppression test, could be considered. However, if clinical signs of hyperadrenocorticism are not present, no further testing is indicated, and recommendations include medical management of the proteinuria and kidney disease with a renal diet if tolerated, an ACE inhibitor such as Benazepril, fatty acid supplementation if possible, and an antithrombotic such as low-dose aspirin or clopidogrel. Management of the proteinuria as just described is indicated at this point, regardless of the underlying cause.







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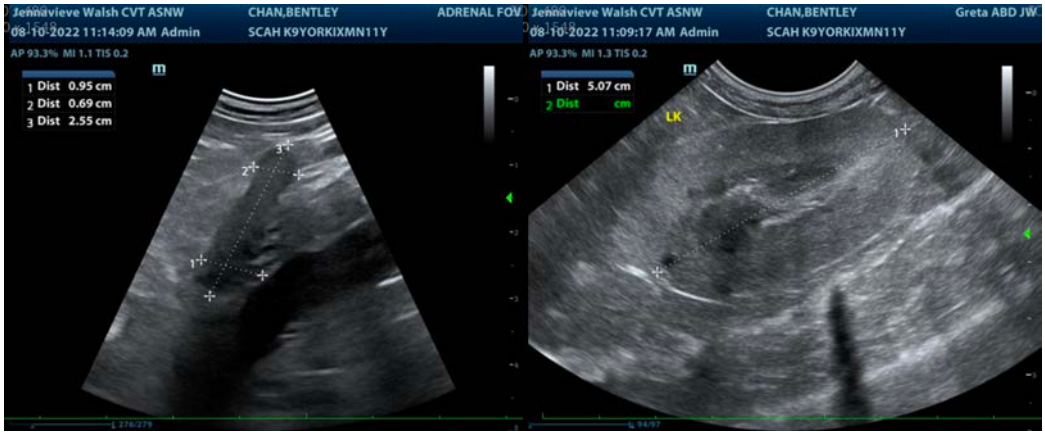

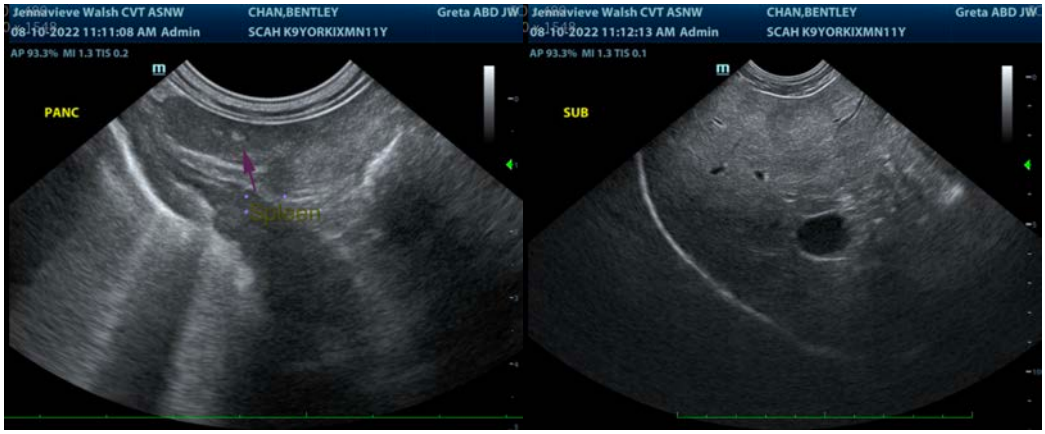

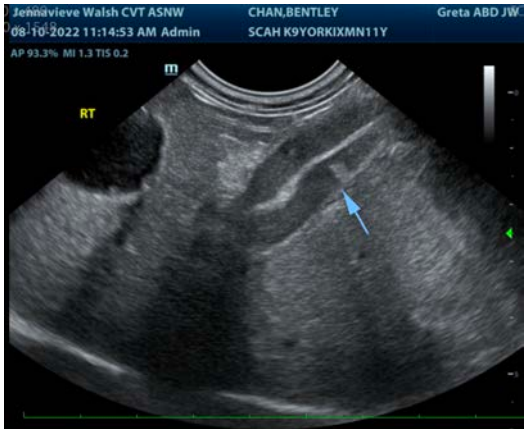

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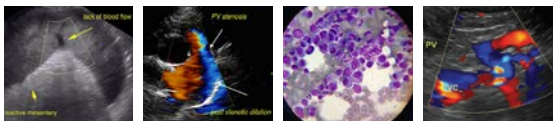

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com