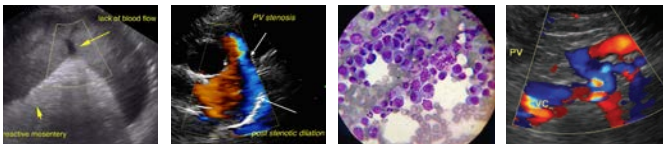
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
AJ Vonwald

SPECIES
Canine

BREED
Jack Russell Terrier

SEX
Spayed Female

AGE
16 Years

WEIGHT
18 Pounds

INTERPRETED BY
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY
Dr. Emma Herdener

HOSPITAL NAME
Eastgate Vet Clinic

REFERRING VET
Dr. Emma Herdener

INVOICE
24841

DATE
8/20/21

PRESENTING CLINICAL SIGNS

Decreased appetite and energy. O was concerned for possible UTI. Labwork results show significantly elevated liver values - history of elevated values but not this high. Previous ultrasound performed in March 2021 showed evidence of chronic hepatopathy but otherwise unremarkable geriatric abdomen - imaging interpreted with SonoPath.
Abnormal PE/Chem/CBC/UA Results: AST (SGOT) 976 (HIGH) 15-66 IU/L ALT (SGPT) 2,206 (HIGH) 12-118 IU/L -- Result Verified Alk Phosphatase 339 (HIGH) 5-131 IU/L GGT 52 (HIGH) 1-12 IU/L -- Result Verified Total Bilirubin 2.2 (HIGH) 0.1-0.3 mg/dL 1+ bilirubin on UA. All other labs unremarkable.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and loss of corticomedullary symmetry and definition expected for the age of the patient. Mild dystrophic mineralization present. The left kidney measured 4.0 cm with mild pyelectasia noted. The right kidney measured 4.0 cm.

Adrenal Glands

A non-expansive, uniformly echogenic nodule was present in the cranial left adrenal gland without evidence of mineralization. The left adrenal gland measured 0.75 cm at the cranial pole and 0.64 cm at the caudal pole. The cranial left adrenal nodule measured 0.59 cm in width. Subtle heterogeneous changes noted in the caudal left adrenal gland. This is likely suggestive of a benign process such as adenoma, granuloma or myelolipoma if no clinical signs of adrenal disease are currently present. Potential emerging aggressive neoplasia cannot be ruled out. Therefore, recheck ultrasound every 3-6 months is suggested to monitor for changes in size or appearance. A screening blood pressure is suggested.

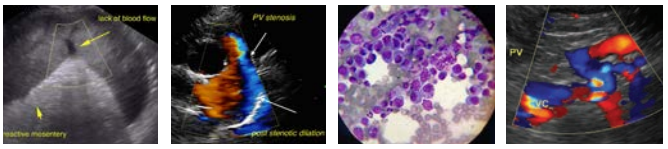
No overt pathology associated with the right adrenal gland, although not definitively visualized.

Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. The capsule was smooth and regular without apparent expansion. Minor craniomedial splenic folding was present. This is not indicative of underlying splenic pathology and likely a patient variant. No splenic masses. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease.

Liver

The liver exhibited mild generalized enlargement and normal overall hepatic parenchymal echogenicity with moderate coarse echotexture and evidence of parenchymal remodeling. Subtle increased prominence yet indistinct portal vascular borders were present. No hepatic masses or nodules. The



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gallbladder exhibited subjective mild distention. Moderate non-dependent, mildly organized luminal debris was present occupying the majority of the gallbladder lumen. The gallbladder walls were sonographically unremarkable. No evidence of peripheral gallbladder inflammation or effusion. The common bile duct was normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Acute on chronic hepatopathy
- Partial/emerging gallbladder mucocele – subjectively non-inflamed
- Likely static left adrenal nodule – suspect adenoma

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The overall liver was non-specific, yet primary concern for acute on chronic hepatic inflammatory parenchyma or hepatobiliary process given the primarily elevated ALT/AST combination with potential for cholestatic disease given the elevated ALP/GGT combination. Potential for hepatic neoplasia considered a less likely differential diagnosis. No overt evidence of post-hepatic obstruction. However, concern for non-inflamed gallbladder mucocele as potential cause of the patient's clinical signs is warranted. Given the lack of inflammation, no immediate indication for surgical intervention. However, continued close monitoring for evidence of increasing cholestasis and hepatic enzyme elevations is recommended. Leptospirosis titers/PCR may be considered if clinically indicated. Some or all of the following protocol is suggested.

Enrofloxacin 5 mg/kg SID PO & **Metronidazole** (10-20 mg/kg po bid) over 3 weeks, **Ursodiol (**10-15 mg/kg p.o. q24h) over 8 weeks and recheck sonogram. Monitor rapid rise in ALT, SAP, Bilirubin, bilirubinuria, leukocytosis, focal cranial abdominal subxyphoid discomfort or progressive anorexia. Immediate recheck sonogram indicated if these clinical signs are noted. More information regarding clinical emerging mucocele issues may be found with our article and research at http://sonopath.com/resources/articles, ***Defining a GB Mucocele*** and ***Clinical Parameters in Dogs with Sonographically Diagnosed Surgical Biliary Disease*** from ECVIM 2009.

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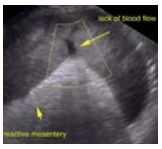
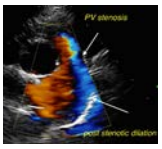
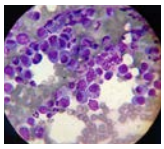
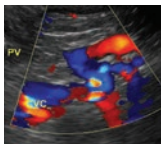

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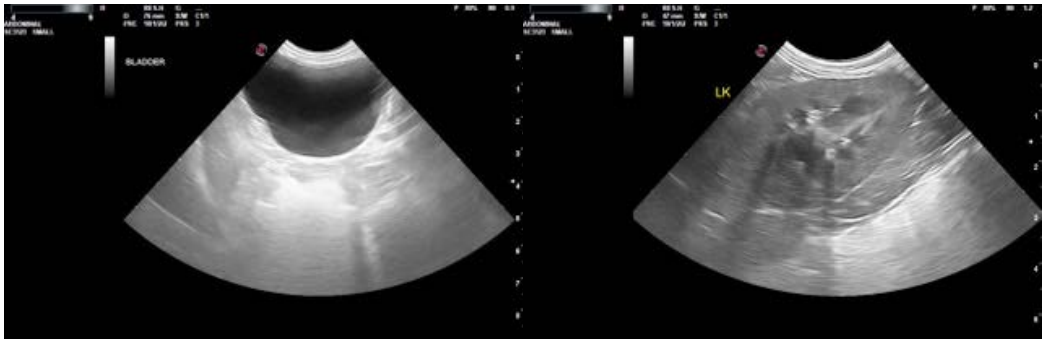

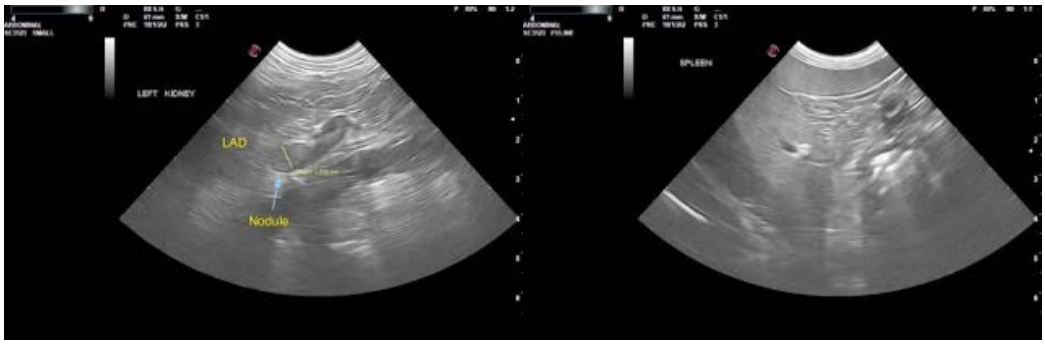

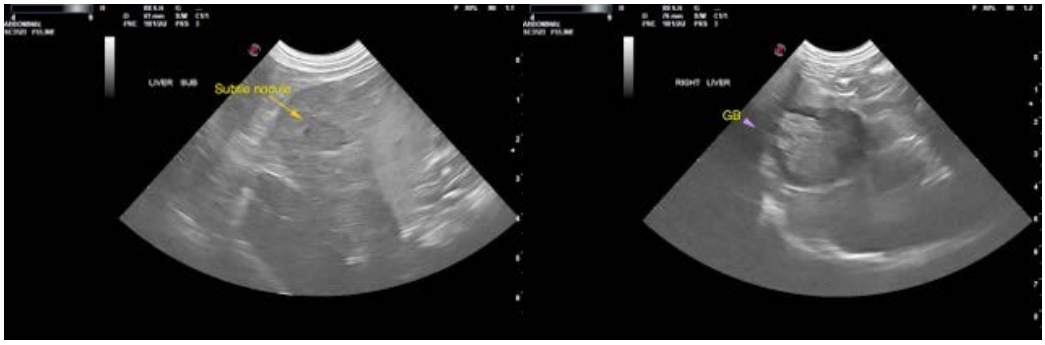

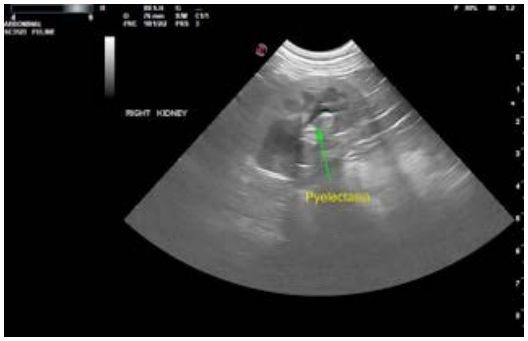

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com