



PATIENT

Kixie Venning

SPECIES

Canine

BREED

Cavalier King Charles

SEX

Spayed Female

AGE

13 Years

WEIGHT

13.2 Pounds

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Wymard

HOSPITAL NAME

Brookwood AC

REFERRING VET

Dr. Wymard

INVOICE

16702

DATE

8/2/22

PRESENTING CLINICAL SIGNS

History: P has HAC and a grade IV heart murmur (historical) P presents today for inappetence and vomiting. P vomited on 7-28 but was okay over the weekend. Yesterday (8-1) vomited 8-9x (white foam, some bile, and food). P not eating/drinking. No diarrhea. Lethargic. I could not find official U/S report but a MR from 11/2021 reads "U/S report per RM - Non-dependent sludge noted in gallbladder. No signs of biliary obstruction. Slightly mottled appearance to liver. Lipogranulomatous nodule noted in spleen with no expansion of splenic capsule." P on vetmedin, pimobendan, and denamarin Hx of elevated liver values but recent BW in June looked great

Abnormal PE/Chem/CBC/UA Results: PE fairly unremarkable except for tachy gums. Mildly tense on caudal abdominal palpation. CBC: neutrophils (18.49), otherwise WNL Chem: ALT (122), otherwise WNL Radiographs: two focal areas of increased opacities in the liver (separated by enough space that I do not believe both are in the GB); gas in colon; small amount on ingesta in stomach; (I've attached rad images for you to see opacities in liver region)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

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 were noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Slight mineralization was present. The left kidney measured 4.5 cm. The right kidney measured 4.5 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.4 cm. The right adrenal gland measured 0.8 cm at the cranial pole and 0.6 cm at the caudal pole.

Spleen

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 were noted.

Liver



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The **liver** presented heterogenous parenchyma with increased portal markings and coarse architecture. Slight undulating capsular contour was noted. Gallbladder calculi were noted, a grouping of which measured approximately 3.0 cm. The gallbladder wall was thickened, echogenic and mineralized. The gallbladder changes were consistent with porcelain gallbladder. This is a mild to moderate change, consistent with chronic inflammatory hepatopathy. Lobar biliary calculi were noted.

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some mild 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 subxyphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

ULTRASONOGRAPHIC FINDINGS

- Biliary calculi
- Chronic inflammatory hepatopathy liver pattern
- Age-related renal changes with slight mineralization
- Age-related pancreatic changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The biliary mineralization is likely secondary to chronic inflammatory disease. The GI signs may be owing to biliary calculi. Supportive care for GI upset, as well as ursodiol therapy could be considered. However, if bile acid elevations are present, a proactive cholecystectomy, common bile duct lavage and liver biopsy may be in this patients best interest for long term management. Medical management is to be utilized with ursodiol over the next 6-8 weeks. I recommend ultrasound at 8 weeks prior to stopping ursodiol to assess any progression or regression/response to therapy. No evidence of neoplasia.





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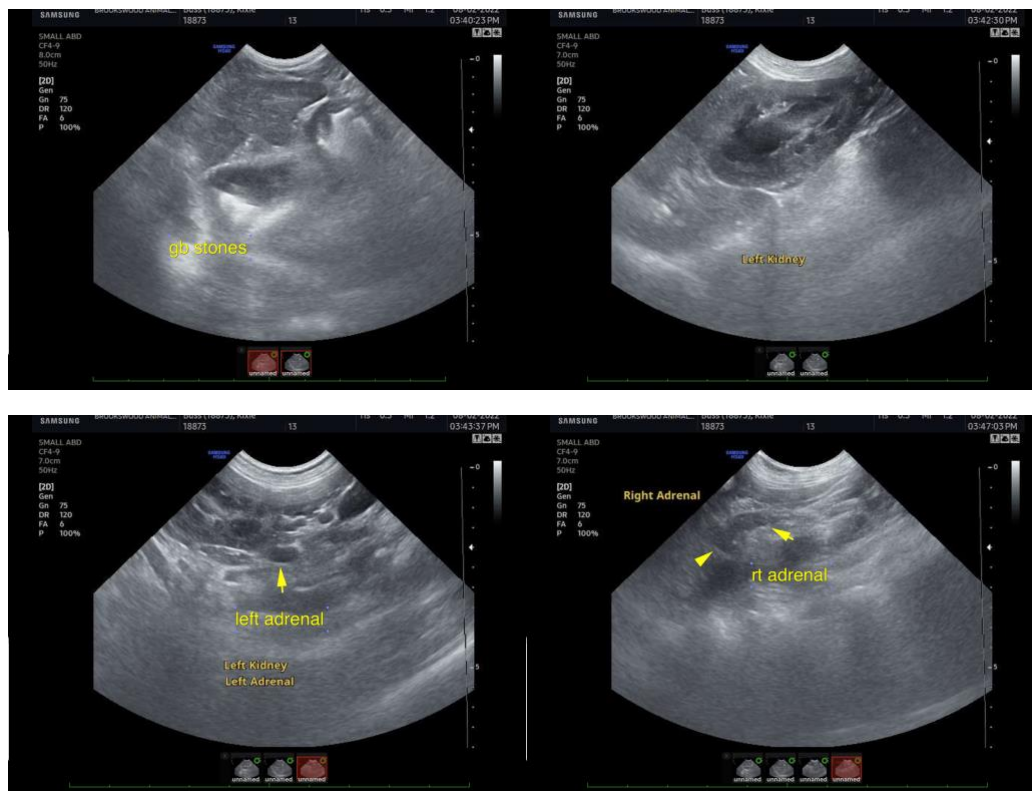
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com