



**PATIENT**

Sarai Mychak

**SPECIES**

Canine

**BREED**

German Shepherd

**SEX**

FS

**AGE**

10 years

**WEIGHT**

88 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Karen Ebersole, DVM,  
DABVP (Canine/Feline  
Practice)

**HOSPITAL NAME**

Scanvet

**REFERRING VET**

Dr. Perkins

**INVOICE**

16712

**DATE**

4/27/23

**PRESENTING CLINICAL SIGNS**

No concerns or clinical signs. Mildly elevated ALT in Jan 2022. The value has been slowly increasing. FNA of liver parenchyma. Sedated with Butorphanol for US, Propofol for FNA.

Abnormal PE/Chem/CBC/UA Results:PE: all WNL ALT (3/27/2023): 324, non-fasted sample. ALT (today, fasted): 164, rest of liver panel WNL.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 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 was 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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 7.2 cm in length. The right kidney measured 7.1 cm in length.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 3.6 cm length x 0.87 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 3.3 cm length x 0.86 cm width at the caudal pole.

**Spleen**

The spleen was normal in size with minor capsule asymmetry and generalized mild to heterogeneous parenchyma. A solitary, nondisruptive, well-demarcated, hyperechoic to emerging mineralized nodule was present in the mid-spleen measuring 0.78 cm in diameter. No splenic masses were noted. Normal splenic vascularity was noted.

**Liver/ Gallbladder**

The liver was normal to possibly borderline mild enlarged appearance. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion.

The gallbladder was non-distended with generalized mildly thickened to hyperechoic gallbladder walls. The gallbladder contained anechoic content with moderate, nonorganized, variably hyperechoic to mineralized gallbladder sludge, which appeared to be primarily dependent, extending into the gallbladder neck and potentially proximal cystic duct. The common bile duct was not definitively



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visualized indicating a lack of stasis, dilation, or post hepatic obstructive criteria. No evidence of peripheral gallbladder inflammation or free fluid was noted.

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**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.

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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.

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

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**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 were evident.

**WEIGHT**

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**Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

**INTERPRETED BY**

R. McKenzie Daniel,  
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(Canine and Feline)

- Mild benign hepatopathy exhibiting mild parenchymal remodeling
- Chronic cholecystitis pattern with moderate nonobstructive gallbladder sludge / mineral
- Mild chronic renal changes
- Heterogeneous spleen with solitary nondisruptive mid-splenic nodule - subjectively benign, hyperplasia, hematopoiesis, breed-associated hypersplenism with solitary benign myelolipoma or splenic mineralization likely

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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Given the lack of structural hepatic parenchymal pathology or post-hepatic obstructive criteria, the cause of the ALT elevation in this patient is suspected to be secondary to chronic cholecystitis with some degree of secondary hepatic inflammation. No evidence of hepatobiliary neoplastic criteria. Correlation with pending hepatic screening cytology is suggested.

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Given the relatively low-grade ALT elevation, and without clinical signs of hepatic disease, some or all of the following protocol may be considered. Sonographic reassessment, specifically if acute or progressive ALT elevation or evidence of cholestasis, is advised. If these clinical signs are noted, sonographic reassessment is recommended while the possibility of eventual cholecystectomy and hepatic biopsies may ultimately be considered.

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**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. More information regarding clinical emerging mucocele issues may be found with our article and



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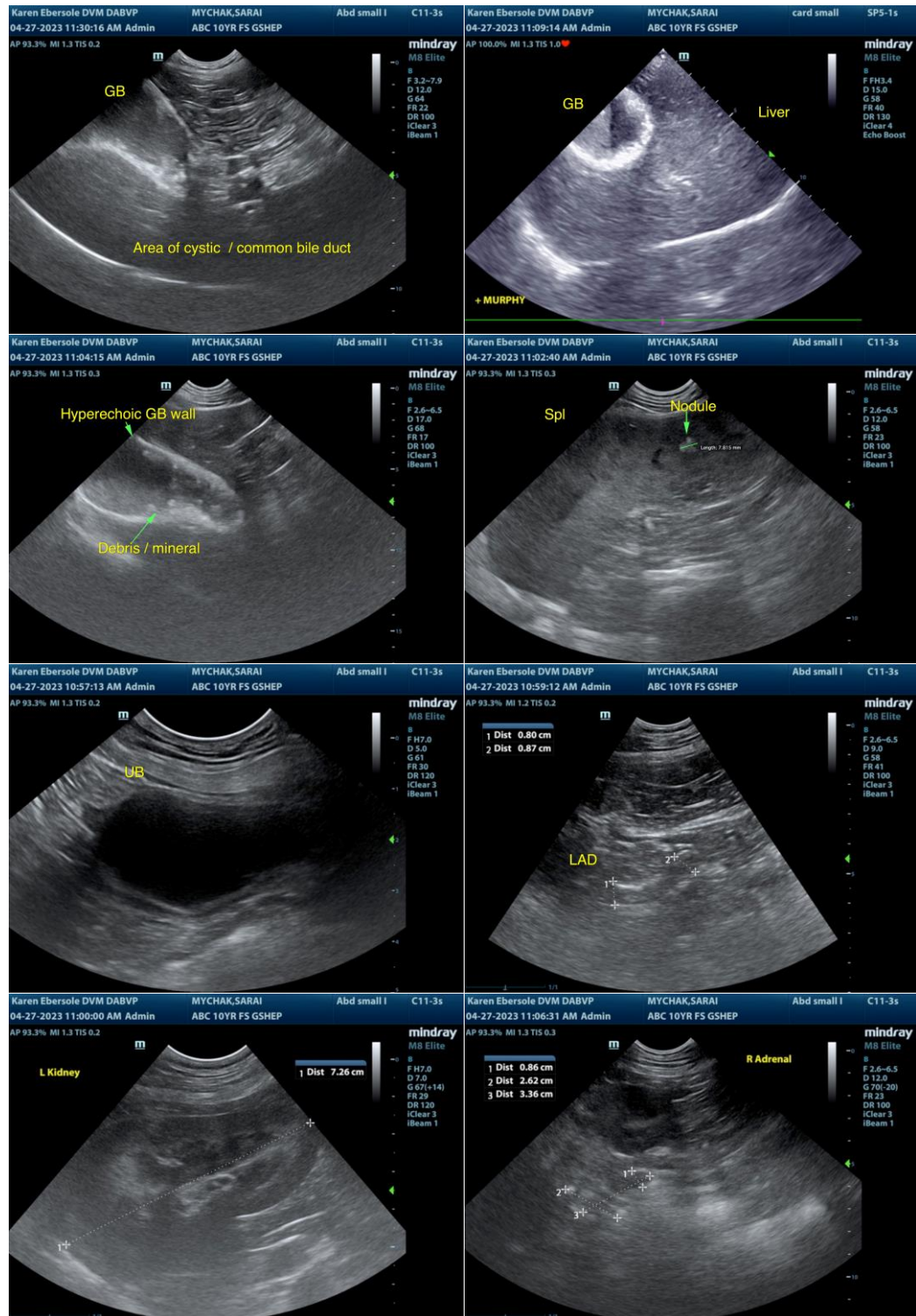
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research at <http://sonopath.com/resources/articles>, *Defining a GB Mucocele and Clinical Parameters in Dogs with Sonographically Diagnosed Surgical Biliary Disease* from ECVIM 2009.





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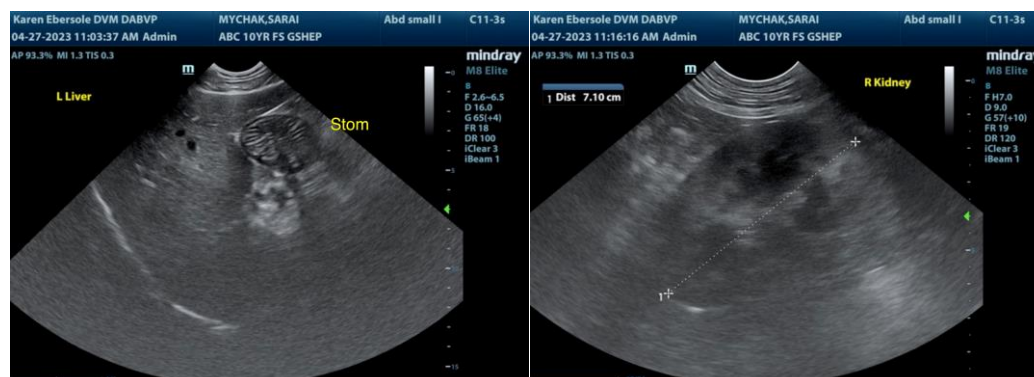
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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