


PATIENT

Sophie Transue

SPECIES

Canine

BREED

Schnauzer/Poodle

SEX

Spayed Female

AGE

12 Years

WEIGHT

8.1 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

 Jolee Stegemoller,
 DVM

HOSPITAL NAME

North Idaho AH

REFERRING VET

 Jolee Stegemoller,
 DVM

INVOICE

16718

DATE

7/22/22

PRESENTING CLINICAL SIGNS

History: Have been monitoring liver enzymes since 2018. Recently had check up on July 9th and was doing well, but liver enzymes were slowly getting higher but stable over the last few months. Presented 7/20 for acute diarrhea which was watery throughout the night that hasn't been responsive to medications (metronidazole, probiotic, bland diet). Presented 7/22 for anorexia, eating grass and no bowel movements. Has been on treatment for CHF for the last 12 months. Mr. Transue has been in the hospital for the last week so there is some ongoing stress in the home with normal routines being affected.

Abnormal PE/Chem/CBC/UA Results: PE: Splinting/licking on cranial abdominal palpation (was not present on 7/20). Slight weight loss since Apoquel. 7/8/22 - ALT 194, ALP 601, CBC unremarkable 7/22/22 - ALT 678, ALP 699, GGT 7, Cholesterol 435 (fasted), CBC unremarkable. Current medications have recently included pimobendan, enalapril, furosemide, carprofen, glucosamine chews but has not had in a few days since illness started. Started on IV fluids, ondansetron, Cerenia, metronidazole, pain medication.

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. Aortic trifurcation was normal.

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. No evidence of pelvic dilation was present. The left kidney measured 4.5 cm in length. The right kidney measured 4.8 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 0.44 cm width at the caudal pole and 0.39 cm width at the cranial pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.42 cm width at the caudal pole and 0.40 cm width at the cranial pole.

Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver

The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. A solitary



PATIENT	nondisruptive well demarcated uniform hyperechoic intraparenchymal nodule was present in the left liver, measuring 1.2 cm in diameter.
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Canine	
BREED	Gastrointestinal
Schnauzer/Poodle	The stomach presented intact yet mildly prominent wall layering. The lumen of the stomach was empty with luminal gas. No evidence of retained ingesta, fluid or foreign material. The gastric body wall measured 0.49 cm.
SEX	The small intestine presented intact wall layering and primarily maintained 1:3 muscularis/mucosa ratio. Minor segmental duodenojejunal mucosal speckling. No evidence of mechanical/metabolic ileus, loss of intestinal wall layering or intestinal masses. The duodenum wall measured 0.45 cm. The jejunum wall measured 0.35 cm.
Spayed Female	
AGE	Normal visible colon wall layers were present with apparent formed feces in lumen.
12 Years	
WEIGHT	Pancreas
8.1 kg	The pancreas base and right pancreatic limb exhibited subtle prominent size with primarily maintained symmetrical capsule contour and heterogeneous to mixed echogenic pancreatic parenchyma compared to adjacent omentum.
INTERPRETED BY	Free Abdomen
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	No overt lymphadenopathy or peritoneal effusion was present.
IMAGING PERFORMED BY	ULTRASONOGRAPHIC FINDINGS
Jolee Stegemoller, DVM	<ul style="list-style-type: none"> • Hepatopathy with solitary nondisruptive uniform hyperechoic intraparenchymal nodule-subjectively benign • Emerging/partial gallbladder mucocele- non-inflamed • Mixed echogenic pancreas with parenchymal remodeling • Gastroenteritis pattern • Mild age-related kidneys
HOSPITAL NAME	INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS
North Idaho AH	The overall appearance of the liver, although nonspecific, is consistent with benign hepatopathy with considerations including vacuolar hepatopathy and nonobstructive cholestasis, given the progressive ALP/GGT elevation with potential for primary or concurrent inflammatory hepatopathy given the ALT elevation. No overt evidence of hepatic parenchymal neoplastic criteria. The partial to emerging gallbladder mucocele may be a contributing factor to the hepatic enzyme elevations yet at this stage, the partial to emerging gallbladder mucocele does not appear to be inflamed and without evidence of post hepatic obstructive criteria.
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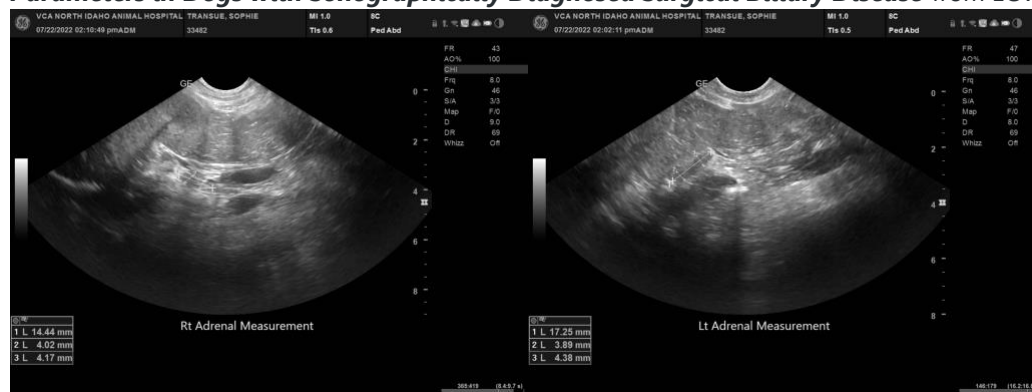
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Age-related/patient pancreatic variant with potential for chronic pancreatitis is possible. A GI panel to include PLI/TLI/Cobalamin/Folate could be considered for further assessment of the pancreas and gastrointestinal tract. Some or all of the following protocol could be considered empirically with close monitoring for evidence of increasing cholestasis, progressive cranial abdominal or subxyphoid discomfort on palpation and with as needed gastrointestinal support.

Cholecystitis/Emerging Mucocele protocol.

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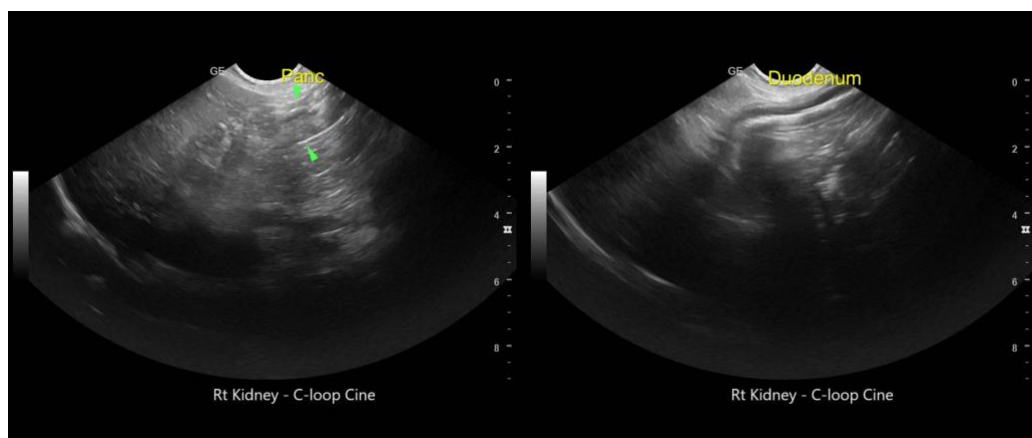
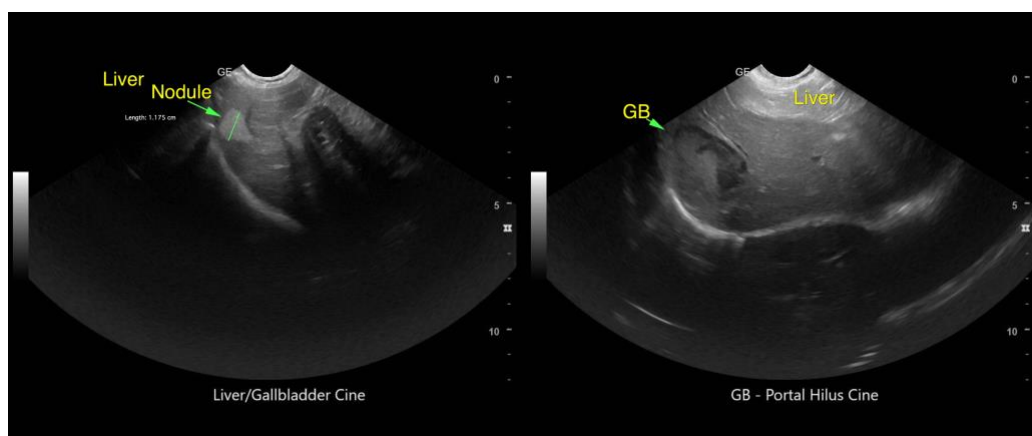
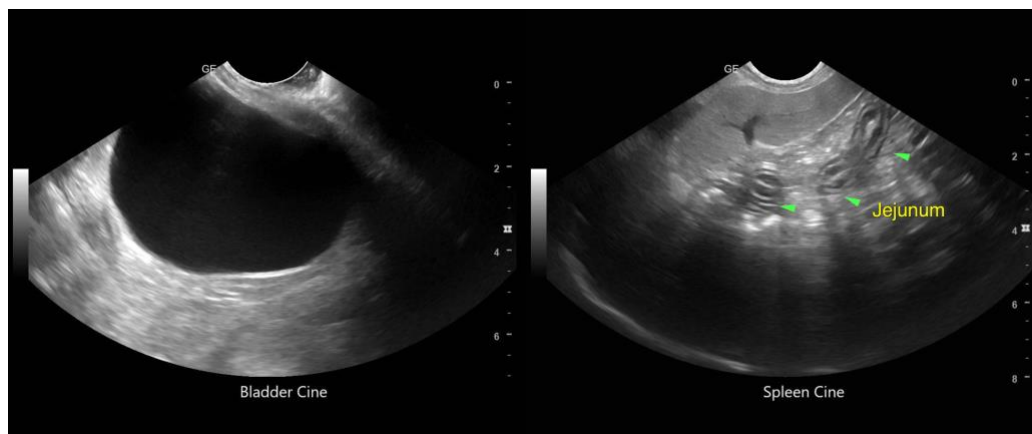
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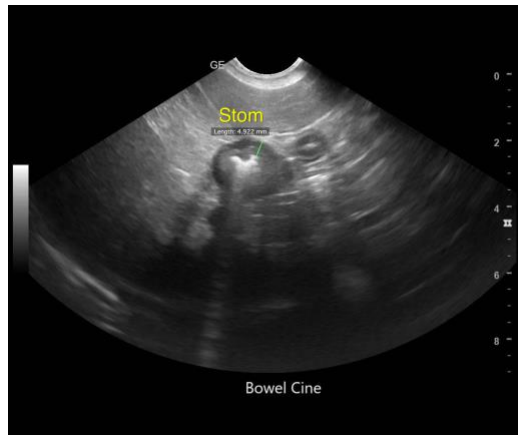
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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