



**PATIENT**

Benicio Nicholas

**PRESENTING CLINICAL SIGNS**

History: increased liver enzymes, vomiting

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra 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.

**BREED**

Chi Mix

Normal size and margination was 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 5.5 cm in length. The right kidney measured 5.1 cm in length.

**SEX**

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**AGE**

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The area of the aortic trifurcation was free of pathology.

No overt pathology in the area of the residual prostate.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.45 cm width at the caudal pole and 1.4 length. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.51 cm width at the caudal pole and 2.0 cm length.

**WEIGHT**

19.6

**INTERPRETED BY**

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

**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.

**IMAGING PERFORMED BY**

Jenn

**Liver**

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was mildly distended in size with thin walls and primarily anechoic luminal content with mild to moderate congealed yet nonorganized luminal debris primarily in the cranial lumen. No evidence of mineralization or choleliths was noted. The cystic and common bile ducts were normal.

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**Gastrointestinal**

The stomach presented mild wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with minor retained chyme was present.

**INVOICE**

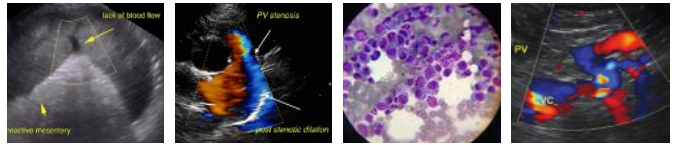
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The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

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



**PATIENT**

***Pancreas***

Benicio Nicholas

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.

**SPECIES**

Canine

***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**BREED**

Chi Mix

Regional hyperechoic omentum noted around the urinary bladder neck and around the pylorus.

**ULTRASONOGRAPHIC FINDINGS**

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- Hepatopathy
- Moderate congealed gallbladder debris, evidence of mild peripheral gallbladder inflammation
- Gastritis pattern, overtly normal small bowel

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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The appearance of the liver is nonspecific yet consistent with benign hepatopathy exhibiting Potential for acute on chronic criteria. Vacuolar hepatopathy, cholestasis, inflammatory/immune mediated disease or other hepatopathy are possible without evidence of neoplastic criteria. Potentially the driving component behind the hepatic enzyme elevation and the vomiting is suspected to be the gallbladder. The gallbladder did not have the classic mucocele presentation yet exhibited evidence of mild pericholecystic inflammation. This does not appear to be immediately surgical however aggressive therapy for cholangiohepatitis/cholecystitis with close monitoring is recommended. Some or all of the following protocol may be considered with monitoring for cranial abdominal/subxiphoid discomfort on palpation. Potential cholecystectomy may be indicated pending clinical and hepatic response or if persistent evidence of cholestasis is present.

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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 subxiphoid discomfort or progressive anorexia.

**IMAGING PERFORMED BY**

Jenn

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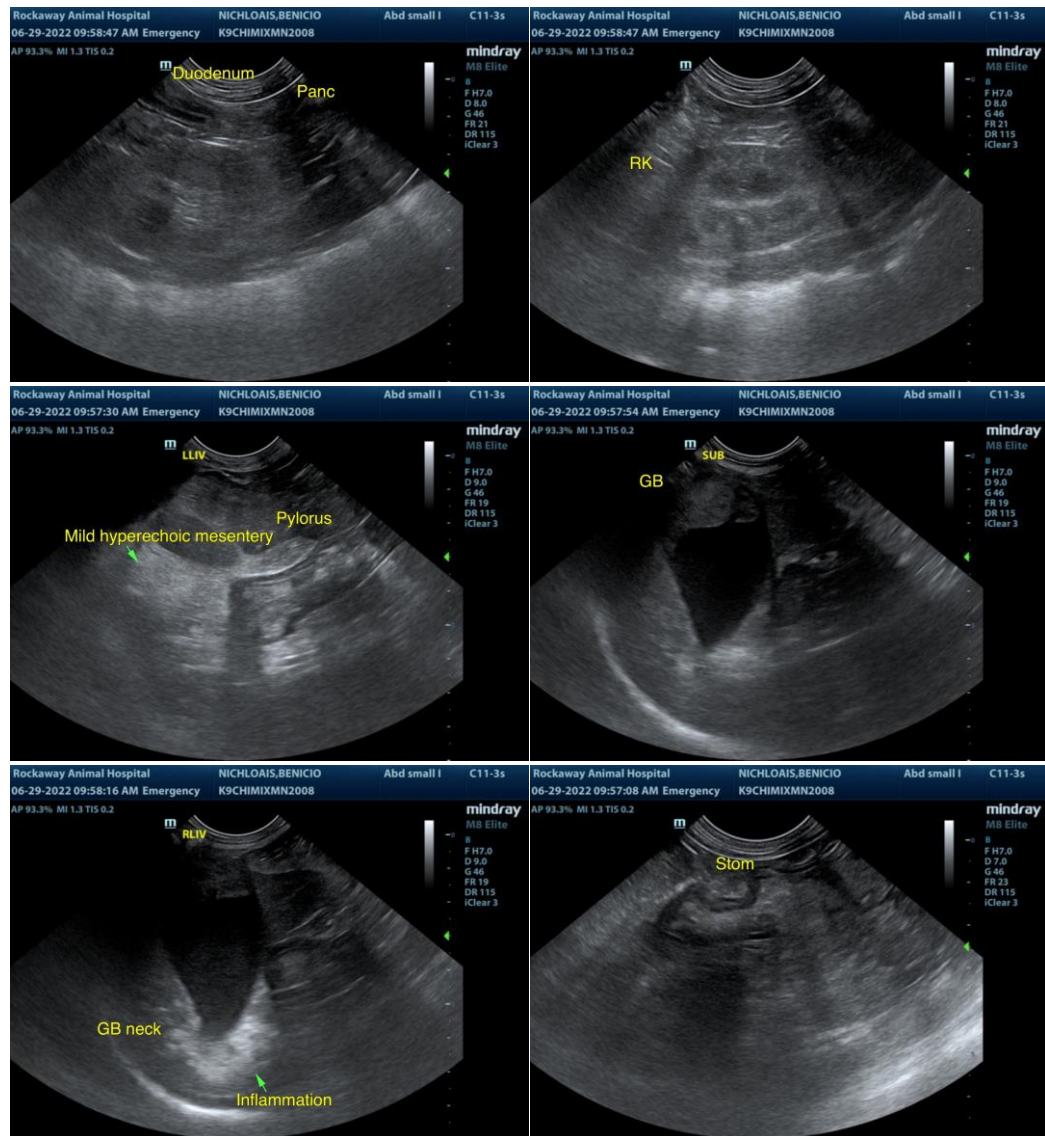
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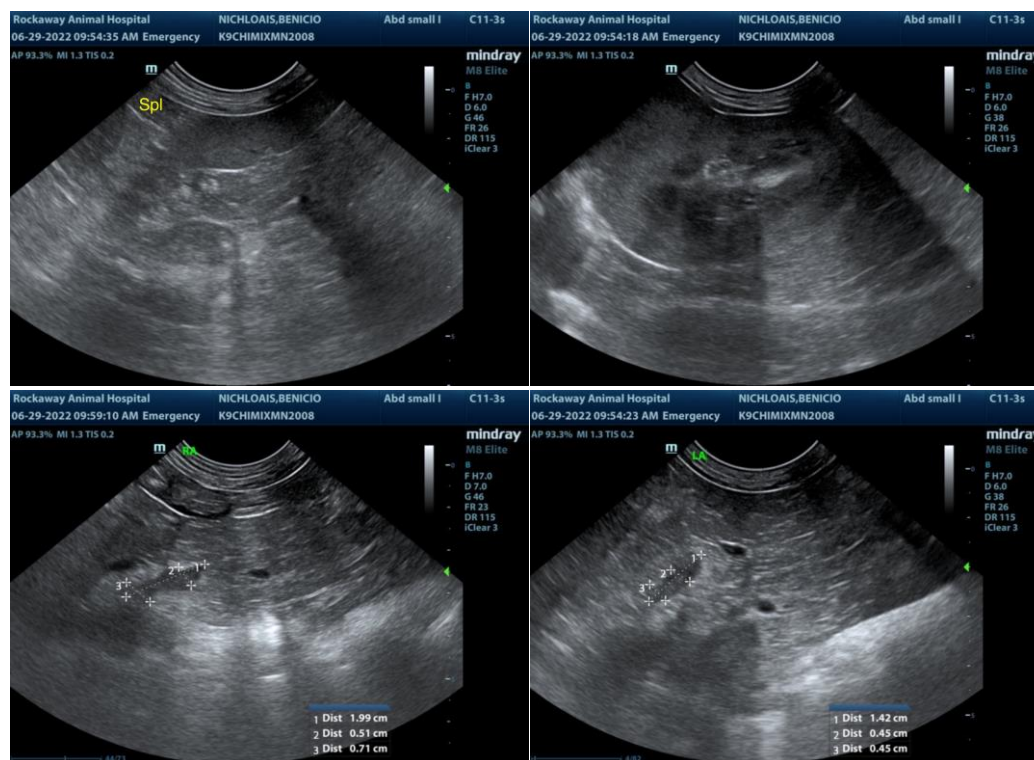
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**IMAGING PERFORMED BY**

Jenn

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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