



PATIENT

Maggie Gubo

SPECIES

Canine

BREED

Mixed Breed

SEX

Spayed Female

AGE

7 Years

WEIGHT

66.5 Pounds

INTERPRETED BY

Kathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)

**IMAGING
PERFORMED BY**

Kelly Vazquez

HOSPITAL NAME

Westwood Regional

REFERRING VET

Dr. Silver

INVOICE

38981

DATE

6/22/22

PRESENTING CLINICAL SIGNS

Liver failure/injury. Current treatments: IVFs, famotadine, Cefazolin, metro, Denamarin, Cerenia. Abnormal PE/Chem/CBC/UA Results: Severe T. Bili elevation, moderately increased Alk. Phos, ALT, and GGT.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with urine that has a large amount of suspended, very echogenic sediment/clots, etc. The area of the trigone, ureteral papillae and proximal urethra appear free of any mass lesions or calculi.

The left kidney has a normal shape and size (8.06 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (8.2 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.47 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

Spleen

The spleen is subjectively normal in size. The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is small, irregular, and diffusely nodular. The visible portions of the vasculature and biliary tract appear normal. The liver is diffusely nodular with hypoechoic lesions most consistent with a cirrhotic liver.

The gallbladder lumen is minimally distended and difficult to visualize within the abnormal hepatic parenchyma. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall



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layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

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Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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Free Abdomen

There is a large amount of free abdominal fluid. No lymphadenopathy is noted. The omentum appears hyperechoic in contrast to the large volume of anechoic fluid.

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ULTRASONOGRAPHIC FINDINGS

- Small, irregular, diffusely nodular liver – most consistent with end stage cirrhotic liver.
- Large volume ascites – recommend fluid analysis and cytology, would suspect a modified transudate secondary to liver failure.
- Mildly mottled spleen – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Large amount of suspended echogenic debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is diffusely small, irregular and nodular. These findings are most consistent with a cirrhotic liver. If bloodwork is consistent with liver failure, a liver biopsy could be considered, but there is some risk involved. A fine needle aspirate or a liver function test is unlikely to be helpful.

Consider supportive care for liver failure such as possible antibiotics for hepatic encephalopathy, GI protectants, nausea medication, Ursodiol, Denamarin, +/- Vitamin K and lactulose if needed. Additionally, there is a large amount of suspended echogenic debris in the urinary bladder. Consider urinalysis and culture.

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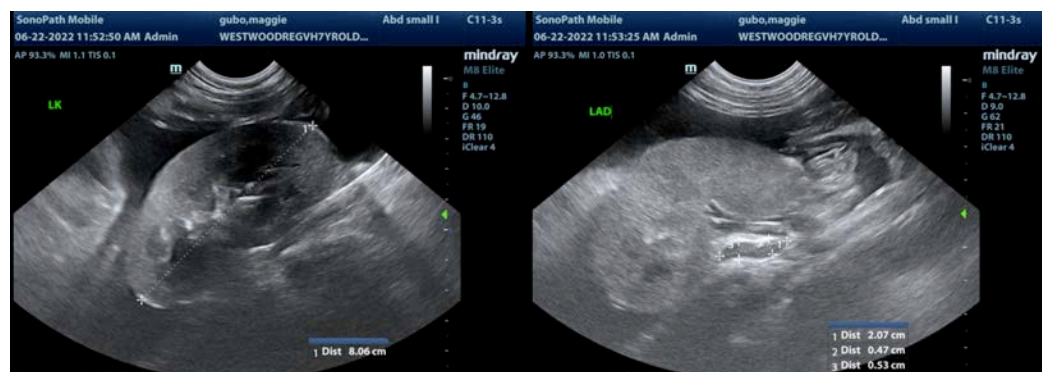
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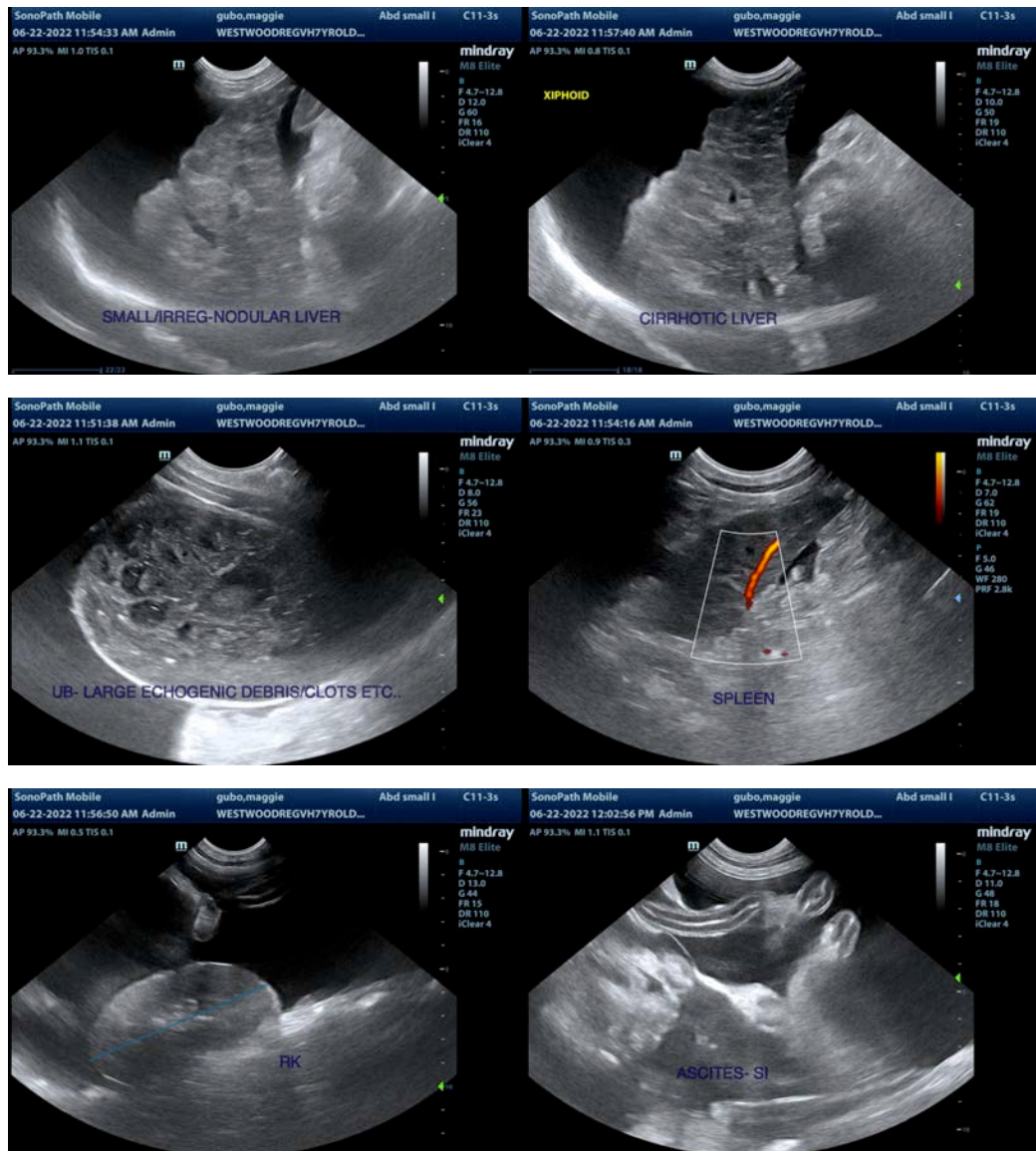
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

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