



**PATIENT**

Max Munoz

**PRESENTING CLINICAL SIGNS**

History: not eating well, intermittent diarrhea, randomly wakes up panting  
Exam nsf, temp 103, albumin 2.4, AST 63, CPK 644,

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**BREED**

German Shepherd

**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

**SEX**

Neutered male

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

**AGE**

6 years

The left kidney has a normal shape and size (5.5 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.

**WEIGHT**

102 lbs

The right kidney has a normal shape and size (5.5 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.

**INTERPRETED BY**

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

**Adrenal Glands**

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. 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.

**IMAGING PERFORMED BY**

Linda Grau

**Spleen**

**HOSPITAL NAME**

Fredon AH

The spleen is subjectively normal in size, echotexture is homogenous, and 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.

**REFERRING VET**

Dr. Roche

**Liver**

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed. The gallbladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris in the dependent portion of the gallbladder. There is no evidence of bile duct dilation or inflammation around the gallbladder.

**INVOICE**

91123

**DATE**

8/11/21



**PATIENT**

**Gastrointestinal**

Max Munoz

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.

**SPECIES**

Canine

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

**BREED**

German Shepherd

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.

**SEX**

Neutered male

**Pancreas**

**AGE**

6 years

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.

**WEIGHT**

102 lbs

**Free Abdomen**

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

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Internal Medicine)

**ULTRASONOGRAPHIC FINDINGS**

**PRIMARY FINDINGS:**

Gallbladder sludge. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

**IMAGING PERFORMED BY**

Linda Grau

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**HOSPITAL NAME**

Fredon AH

The ultrasonographic lesions observed were mild. Unfortunately many causes for chronic diarrhea cannot be diagnosed by ultrasound alone.

**REFERRING VET**

Dr. Roche

In patients with more chronic symptoms, I would most strongly consider food allergy, IBD, and intestinal neoplasia.

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- Recommend diet trial with a novel protein/hydrolyzed prescription diet
- Recommend parasite testing and treatment, consider fiber supplementation (this can help or make things worse), GI panel for evaluation of B12 levels etc.. (start empirical B12 while waiting for results)
- If symptoms are progressing consider obtaining GI biopsies

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This patient has a low albumin, which either indicates the small intestine is significant enough to cause low albumin levels (which is most likely). I would also recommend urinalysis and urine protein levels to exclude renal protein loss and a liver function test to exclude lack of production by the liver. Because the hypoalbuminemia indicates a potential more serious underlying GI disease I am sooner to intervene with GI biopsies to try and avoid a situation where the albumin drops low enough to cause effusion.

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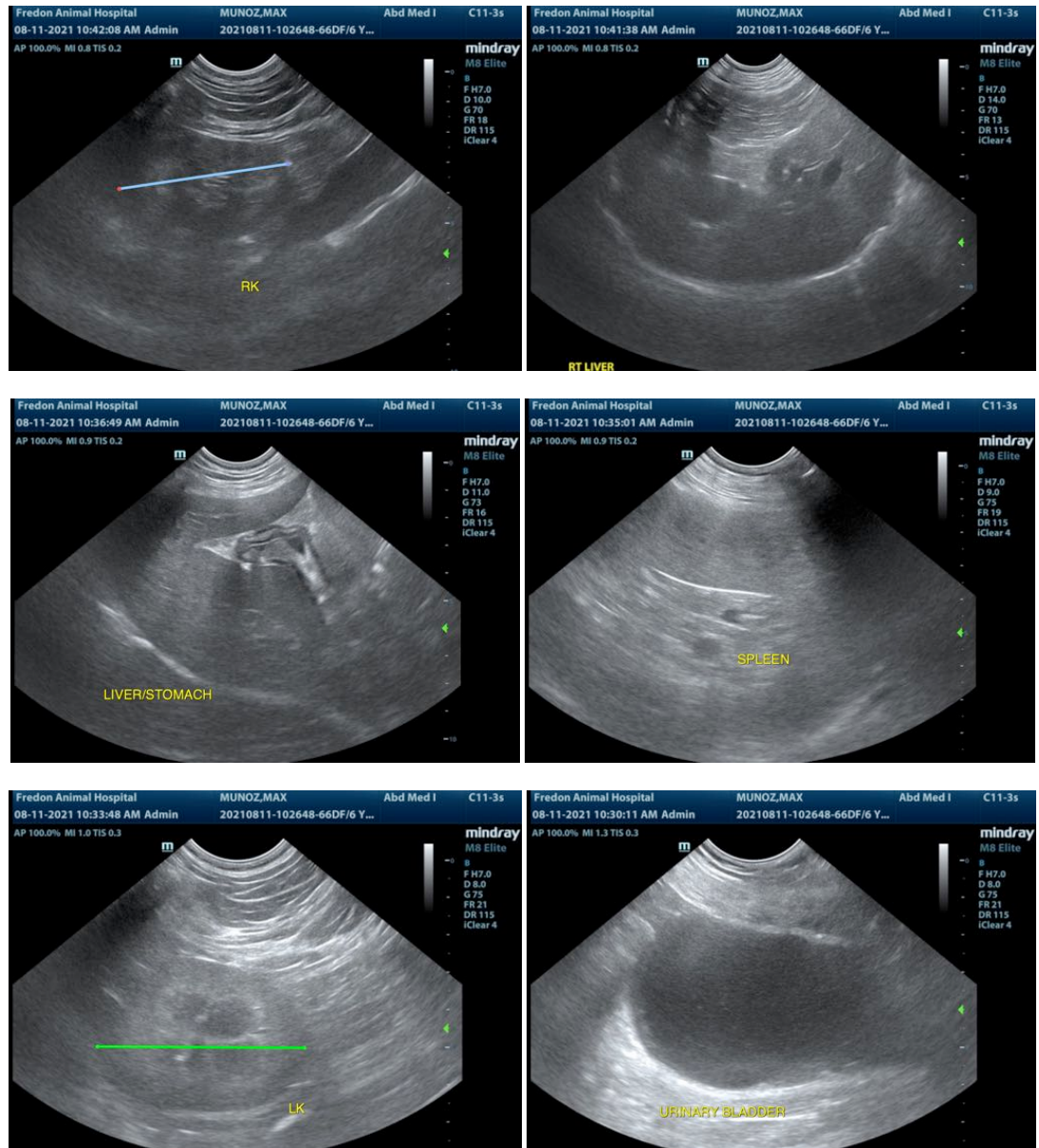
Linda Grau

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**REFERRING VET**

Dr. Roche



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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.



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