

**PATIENT PRESENTING CLINICAL SIGNS**

Nanook Perez

History: Patient nearly finished with 4 wk course of Doxycycline after testing positive for Ehrlichia. He has had a very good clinical response overall with good app/energy, but did have a couple of episodes vomiting over the last week and has had a behavior change with being more clingy to owner. The AUS is indicated due to elevated liver enzymes and GI signs that are atypical for Ehrlichia infection.  
Abnormal PE/Chem/CBC/UA Results: Glob=4.1, ALT=120, ALKP=250, moderate proteinuria with microalbuminuria=10.4, and moderate hematuria. Rest WNL. Previously thrombocytopenic (prior to doxycycline)

**SPECIES**

Canine

**BREED**

Malamute Cross

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**SEX**

Neutered Male

**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.

**AGE**

10 years

The prostate is normal in size (1.06 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

**WEIGHT**

112 Pounds

The left kidney has a normal shape and size (7.2 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.

**INTERPRETED BY**

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

The right kidney has a normal shape and size (7.38 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.

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT

**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.

**HOSPITAL NAME**

Donner Truckee VH

The right adrenal gland is normal in size measuring 0.62 cm at the caudal pole It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**REFERRING VET**

Dr. Hargenrater

**Spleen**

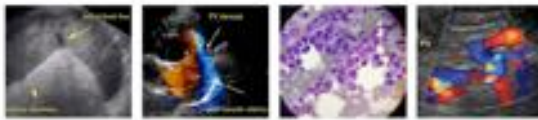
The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

**INVOICE**

94499

**DATE**

12/10/21



**PATIENT** *Liver*

Nanook Perez  
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. There is one small, hypoechoic cyst visualized in the hepatic parenchyma that measured 0.48 cm. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

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**BREED**

Malamute Cross

**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.

**SEX**

Neutered Male

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 (0.54 cm) and the jejunum measured as normal (0.47 cm). Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

**AGE**

10 years

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.

**WEIGHT**

112 Pounds

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**Pancreas**

Kathleen Sennello DVM,  
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Medicine)

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.

**IMAGING PERFORMED BY**

**Free Abdomen**

Loetitia Saint-Jacques, RVT

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. One prominent mesenteric lymph node is visualized at 0.49 cm. There are at least 2-3 hypoechoic structures in the abdomen. Most resemble omental cysts. One measures 1.7 cm in diameter and the other measures 1.2 cm and a larger measured 1.5 x 3.2 cm. I cannot exclude the possibility of a very hypoechoic lymph node, but I suspect that these are cystic structures. Color flow shows lack of vascularity. The omentum is of normal echogenicity.

**HOSPITAL NAME**

Donner Truckee VH

**REFERRING VET**

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**Heart**

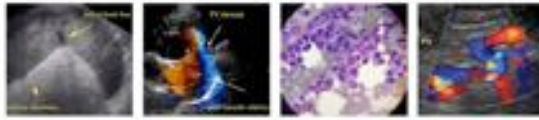
No pericardial effusion was seen.

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**PATIENT      ULTRASONOGRAPHIC FINDINGS**

Nanook Perez

**PRIMARY FINDINGS:**

**SPECIES**

Canine

- Occasional anechoic, rounded structures within the mesentery. The findings are most suggestive of omental cysts. Hypoechoic lymph nodes cannot be excluded as a possibility.
- Small hepatic cysts. This is an incidental finding.

**BREED**

Malamute Cross

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**SEX**

Neutered Male

Today's scan appears relatively normal. The only significant abnormality visualized are some small, hypoechoic, rounded structures in the abdomen, which I suspect are benign omental cysts. I cannot rule out the possibility of a mesenteric lymph node, but these were visualized and did not appear enlarged. I recommend to continue monitoring.

**AGE**

10 years

An obvious cause for the recent liver enzyme elevation and hematuria is not identified. I recommend a urinalysis and culture. Doxycycline can cause elevations in liver enzymes and GI signs, but depending on how long ago this medication was discontinued it is difficult to say if this is a factor. Consider:

**WEIGHT**

112 Pounds

- If the Doxycycline was just finished then consider Denamarin, supportive care and recheck liver values in 7-10 days. If the Doxycycline was discontinued several weeks ago and thought unlikely to be related then consider a pre and post prandial bile acids as a liver function test.
- Liver aspirate
- Urinalysis and culture for the hematuria reported (as discussed above).
- Consider a recheck of the suspected omental cysts in several weeks to see if there has been any significant changes.
- If liver enzymes progressively continue to elevate and liver function is abnormal and an aspirate is not helpful you may need to consider obtaining liver biopsies.

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**HOSPITAL NAME**

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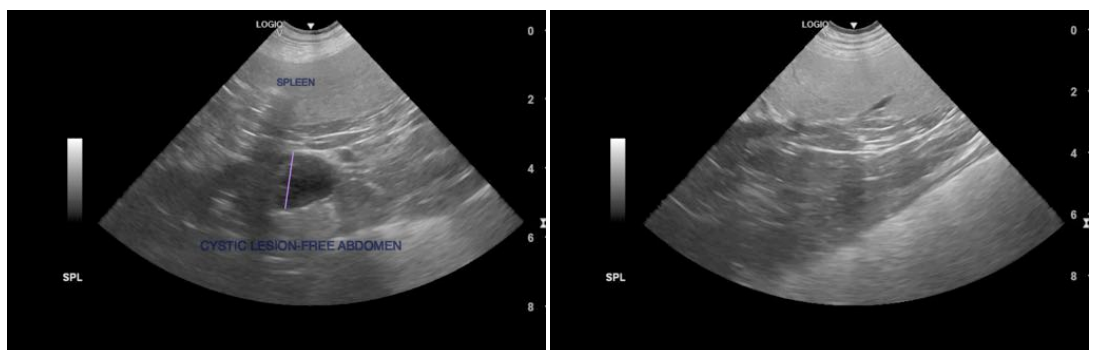
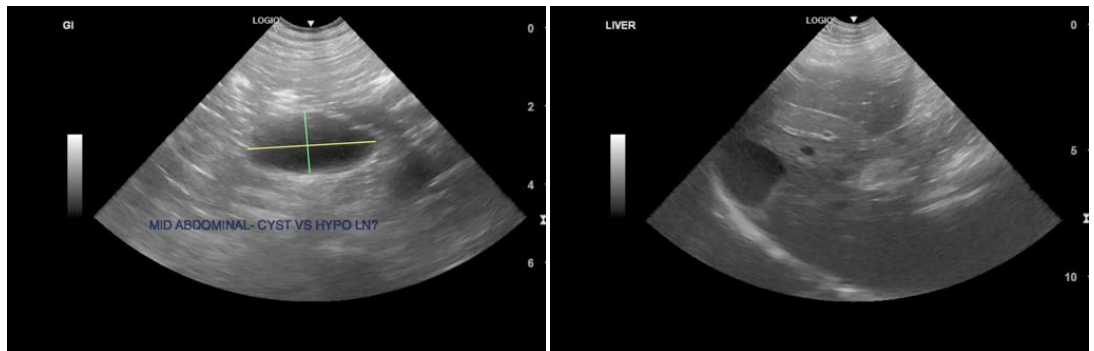
Dr. Hargenrater

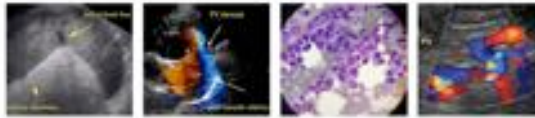
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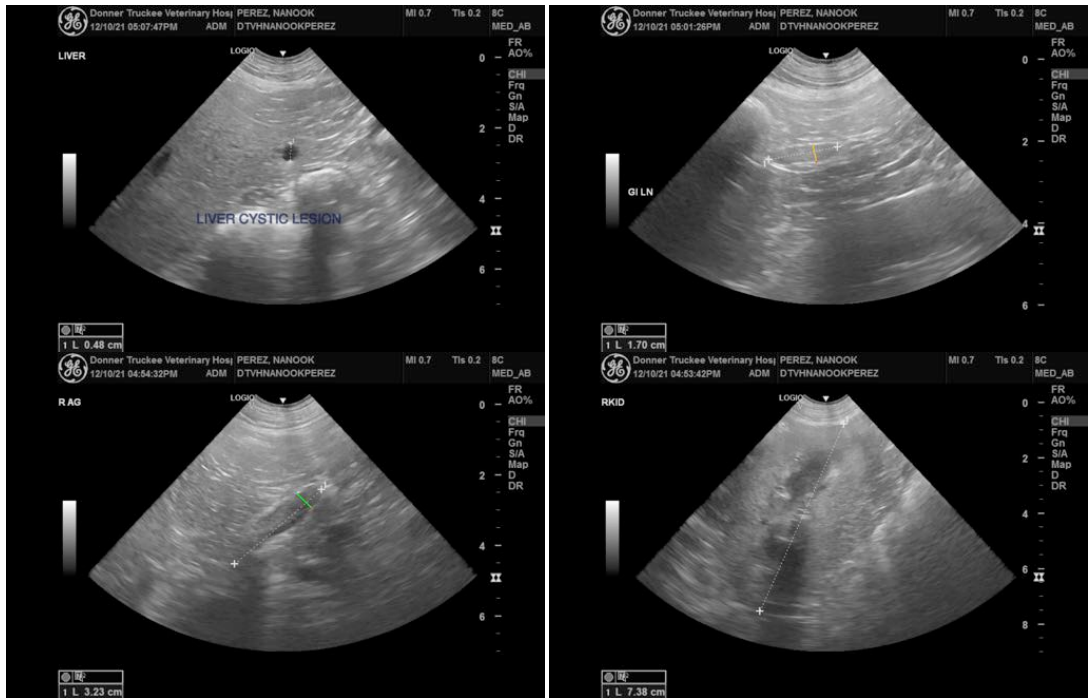
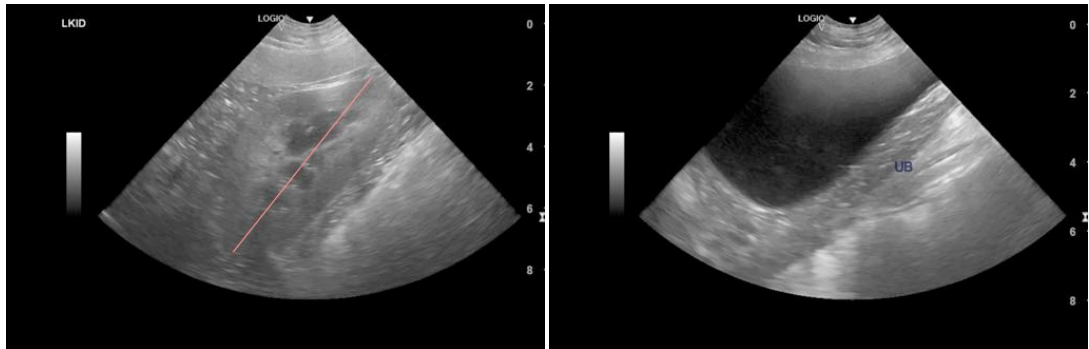
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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