



**PATIENT PRESENTING CLINICAL SIGNS**

**Gus Lemmons** History: 25916 Gus Lemmons Canine Labrador Retriever Mix Neutered Male 13.4 70 lb Medication Strength Dosing Instructions Last given Rejensa joint supplement k/d diet Ursodiol 35 IU Vitamin E Denamarin Procedure: Abdominal Ultrasound Current Problem List: Severe DJD pelvic limbs Suspected Vestibular disease / vestibular signs (chronic left head tilt) Hx of elevated liver values (first noted 2017 by pDVM) and slightly elevated post-prandial bile acids ( 9/5/2017 pre 6.8, post 36.4) - no further assessment was performed Bilateral KCS Hyporexia Presenting Complaint: Presented for AUS. Px has a hx of elevated liver enzymes first noted by pDVM 2017. Px had pre and post prandial bile acids 9/2017 that showed mildly elevated post-prandial bile acids. Patient has a history of severe DJD and during a recent PT visit O noted that px appetite had decreased. Px came in for recheck lab work (2/21/22) and there has been a marked increase in liver values as well as PSL and TBILL (which had previously been WNL). AUS recommended for further evaluation. Pertinent Diagnostic Results:

**Canine**

**BREED** Labrador Retriever

**SEX** Neutered Male

**AGE** 13.4 years

2/21/22 Senior Profile 1 GLOB 4.0 AST 1142 (6/30/21 187) ALT 868 (6/30/21 311) ALP 3071 (6/30/21 1054) GGT 20 (6/30/21 15) TBili 1.1 (6/30/21 0.3) CHOL 380 (6/30/21 540) PSL 5193 (6/30/21 61) SDMA 15.9 (6/30/21 NA) HCT 32% (6/30/21 49%) PLT 508 NEUs 22792 MONO 1036 T4 0.8 (6/30/21 1.3) UA USG 1.015 1+ protein 1+ bili Hyaline casts Significantly worsening liver values, now including an elevated TBILL and PSL, cholangiohepatitis, pancreatitis, also developing anemia

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**WEIGHT** *Urinary System*

70 Pounds 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.

**INTERPRETED BY**

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

The prostate is normal in size (1.3 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.

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT

The left kidney has a normal shape and size (6.1 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.

**HOSPITAL NAME**

Truckee Meadows VH

The right kidney has a normal shape and size (6.4 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.

**REFERRING VET**

Dr. Rachel

*Adrenal Glands*

The left adrenal gland is normal in size measuring 0.99 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.

**INVOICE**

14109

*Spleen*

Unable to clearly delineate the right adrenal gland. Mass lesions visualized in this area (hepatic versus adrenal?).

**DATE**

2/25/22



**PATIENT** The spleen is subjectively large 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. There is a hypoechoic nodule visualized, measuring 0.56 cm in the parenchyma.

Gus Lemmons

**SPECIES** *Liver*

Canine The liver is diffusely enlarged and irregular in shape. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. Very large hyperechoic nodules were present, measuring at 6.34 cm, 3.31 cm, 4.43 cm, etc. Additionally, there is a large cranial to mid abdominal mass, measuring >13.0 cm in diameter, due to the size of this mass effect, it is difficult to determine its origin, as it comes into contact with many structures, but I suspect it is of hepatic origin.

**BREED**

Labrador Retriever

**SEX**

Neutered Male

The gallbladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a moderate to 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 gall bladder.

**AGE**

13.4 years

**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.

**WEIGHT**

70 Pounds

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 (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.

**INTERPRETED BY**

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

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.

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT

**Pancreas**

**HOSPITAL NAME**

Truckee Meadows VH

The region of 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.

**Free Abdomen**

**REFERRING VET**

Dr. Rachel

There is a small amount of free abdominal fluid. There is no obvious mesenteric lymphadenopathy visualized and the omentum is of increased echogenicity in the cranial abdomen.

**ULTRASONOGRAPHIC FINDINGS**

**INVOICE**

14109

- Large irregular liver with numerous hyperechoic and hypoechoic mass lesions. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis,

**DATE**

2/25/22



**PATIENT**

Gus Lemmons

**SPECIES**

Canine

**BREED**

Labrador Retriever

**SEX**

Neutered Male

**AGE**

13.4 years

**WEIGHT**

70 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT

**HOSPITAL NAME**

Truckee Meadows VH

**REFERRING VET**

Dr. Rachel

**INVOICE**

14109

**DATE**

2/25/22

toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The focal mass lesions are concerning for a possible neoplastic process.

- Very large cranial abdominal mass. This is suspected to be of hepatic origin, but visualization is somewhat unclear.
- Large gallbladder debris. There is a large amount of gallbladder debris present, but the gallbladder wall appears relatively healthy and there is no surrounding inflammation.
- Mottled spleen with hypoechoic nodules. 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.
- Small amount of free abdominal fluid

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The liver is very irregular and nodular and there is a large cranial abdominal mass. Based on the history, I'd be concerned about a chronic progressive hepatopathy with regenerative nodules, etc., but the changes observed on today's scan appear more dramatic than I would expect with a benign process, although you cannot differentiate by appearance alone. There is also the concern that there may be more involvement with other abdominal structures than could clearly be visualized. The right adrenal is difficult to visualize and there is a hypoechoic mass lesion near the gallbladder of uncertain origin (suspect hepatic). Consider a fine needle aspirate of the large abdominal mass, as well as a hyperechoic hepatic lesion. You could also consider a fine needle aspirate of the spleen. If these are not helpful or surgical intervention is desired, consider a contrast CT scan of the abdomen to obtain better detail and resolution and try to determine a surgical plan.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement





**PATIENT**

Gus Lemmons

**SPECIES**

Canine

**BREED**

Labrador Retriever

**SEX**

Neutered Male

**AGE**

13.4 years

**WEIGHT**

70 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT

**HOSPITAL NAME**

Truckee Meadows VH

**REFERRING VET**

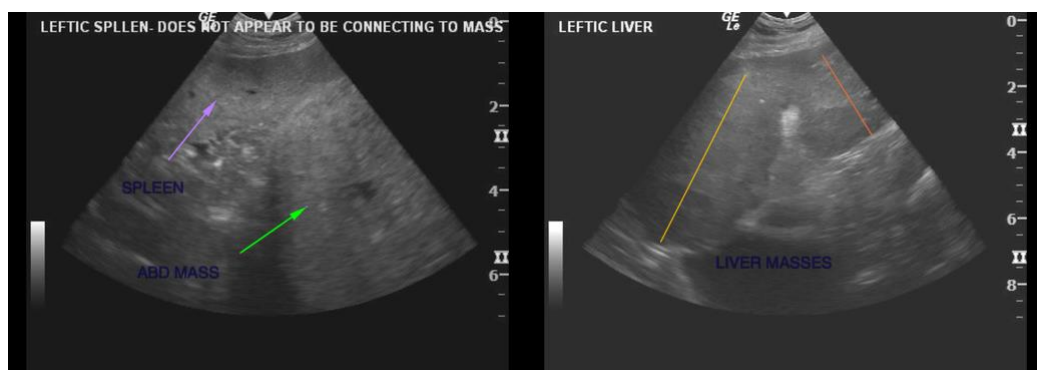
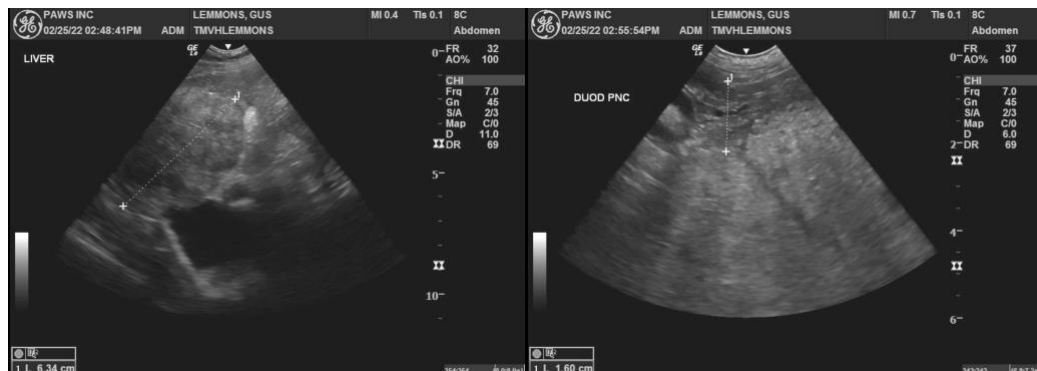
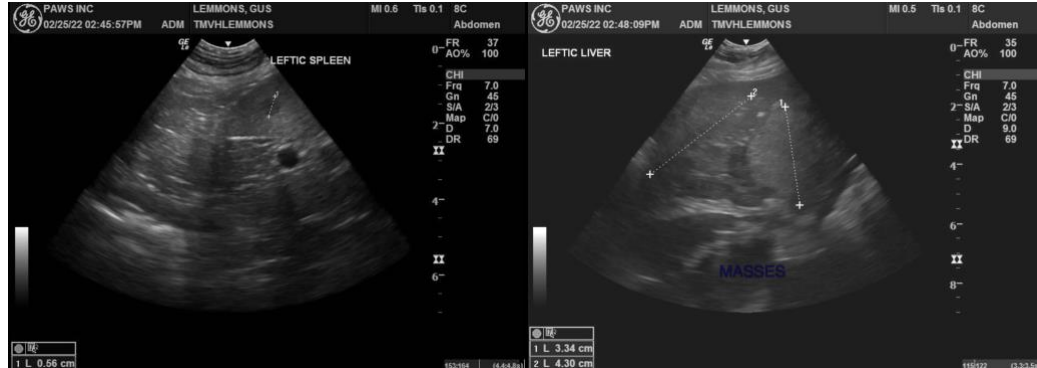
Dr. Rachel

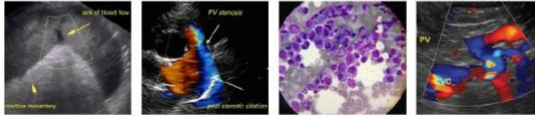
**INVOICE**

14109

**DATE**

2/25/22





**PATIENT**

Gus Lemmons

**SPECIES**

Canine

**BREED**

Labrador Retriever

**SEX**

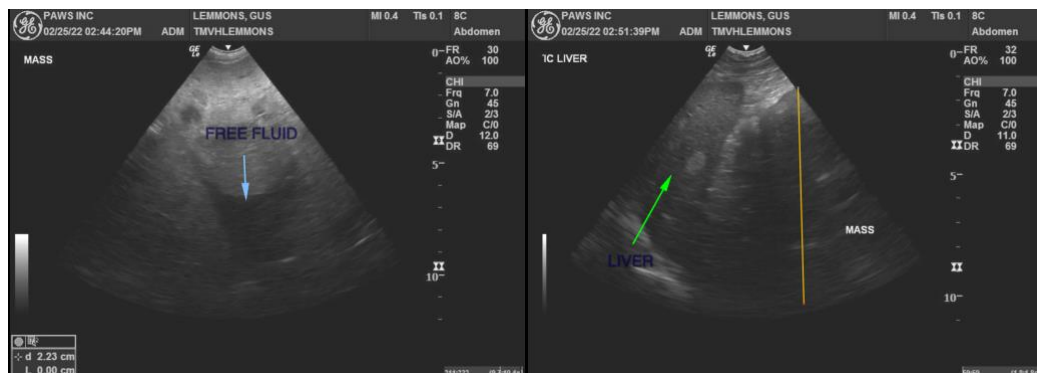
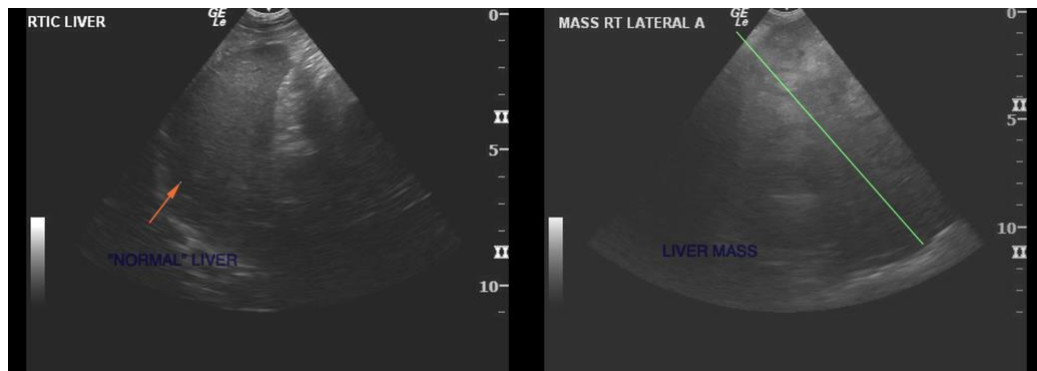
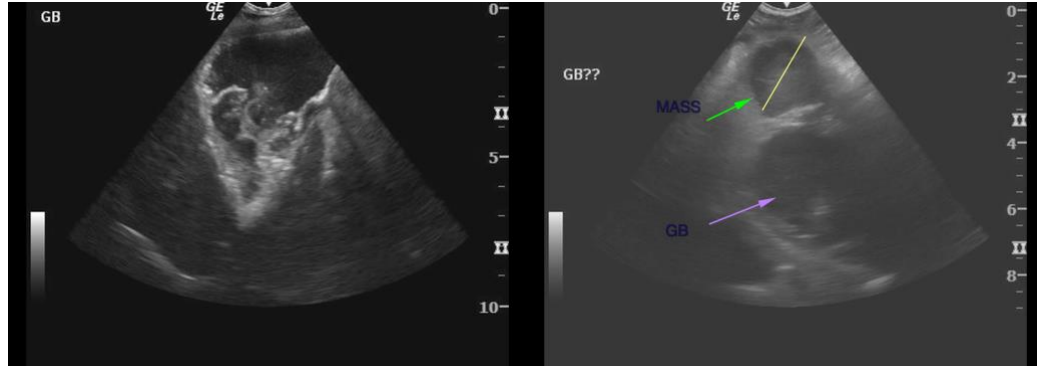
Neutered Male

**AGE**

13.4 years

**WEIGHT**

70 Pounds



**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT

**HOSPITAL NAME**

Truckee Meadows VH

**REFERRING VET**

Dr. Rachel

**INVOICE**

14109

**DATE**

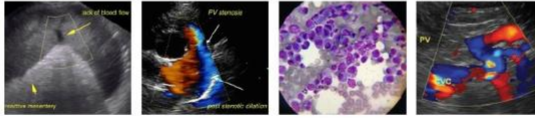
2/25/22

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)

kathleen.sennello@sonopath.com



**PATIENT**

Gus Lemmons

**SPECIES**

Canine

**BREED**

Labrador Retriever

**SEX**

Neutered Male

**AGE**

13.4 years

**WEIGHT**

70 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED  
BY**

Loetitia Saint-Jacques, RVT

**HOSPITAL NAME**

Truckee Meadows VH

**REFERRING VET**

Dr. Rachel

**INVOICE**

14109

**DATE**

2/25/22