



<b>PATIENT</b>	<b>PRESENTING CLINICAL SIGNS</b>
Rambo Perron	Patient presented on June 12th with icterus, nausea, diarrhea, decreased appetite, and lethargy. On exam it was noted that he was severely jaundiced, very dull and 7% dehydrated. He seemed slightly tense on cranial abdominal palpation. He has a history of necrotizing pancreatitis in 2021. He was placed on fluids today and images were obtained, as well as bloodwork and UA.
<b>SPECIES</b>	
Canine	
<b>BREED</b>	
Jack Russell	Abnormal PE/Chem/CBC/UA Results: WBC 23.23 5.05 - 16.76 x10 <sup>9</sup> /L Neutrophils 19.68 2.95 - 11.64 x10 <sup>9</sup> /L PDW 8.9 9.1 - 19.4 fL Plateletcrit 0.47 0.14 - 0.46 % Sodium 131 144 - 160 mmol/L Potassium 3.3 3.5 - 5.8 mmol/L Chloride 99 109 - 122 mmol/L Globulin 46 25 - 45 g/L ALT 2,921 10 - 125 U/L ALP 7,777 23 - 212 U/L GGT 30 0 - 11 U/L Bilirubin - Total 450 0 - 15 µmol/L Cholesterol 10.76 2.84 - 8.26 mmol/L Specific Gravity 1.012 Thoracic rads wnl On ultrasound suspect liver mass (central) and consolidation within GB + dilation of bile ducts.
<b>SEX</b>	
Neutered Male	<b>ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN</b>
<b>AGE</b>	<b>Urinary System</b>
14 Years	The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.
<b>WEIGHT</b>	
8.6 kg	The right kidney is normal in size (4.8 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.
<b>INTERPRETED BY</b>	
Beth Johnson, DVM DACVIM	The left kidney is normal in size (4.58 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.
<b>IMAGING PERFORMED BY</b>	<b>Adrenal Glands</b>
Dr. Nigel Gumley	The right adrenal gland is normal in size (0.72 cm at the cranial pole and 0.60 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.
<b>HOSPITAL NAME</b>	
Cedarview AH	The left adrenal gland is normal in size (0.65 cm at the cranial pole and 0.66 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.
<b>REFERRING VET</b>	<b>Spleen</b>
Dr. Christie Limbrick	The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.
<b>INVOICE</b>	<b>Liver</b>
43138	
<b>DATE</b>	
6/13/23	The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. In the left caudal liver there is a 2.8 cm x 3.16 cm heterogeneous, partially cavitated, primarily hypoechoic nodule/mass. Visible vasculature and biliary tree appear normal without distension or congestion.



**PATIENT**

Rambo Perron

Gallbladder is moderately overdistended with organized, aggregated and centralized non-gravity dependent sludge. Striations of sludge separated by anechoic areas are noted extending from the lumen to the luminal wall. The wall is mildly thick, irregular and hyperechoic. There is no evidence of CBD dilation.

**SPECIES**

Canine

**Gastrointestinal**

**BREED**

Jack Russell

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

**SEX**

Neutered Male

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

**AGE**

14 Years

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

**Pancreas**

**WEIGHT**

8.6 kg

The observed pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and irregular in shape with a swollen undulating contour. Enhanced hyperechoic ill-defined surrounding fat is noted. The pancreatic changes are most prominent in the right limb.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**Free Abdomen**

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

Some hyperechoic enhanced mesenteric fat is noted around the gallbladder mucocele.

**IMAGING PERFORMED BY**

Dr. Nigel Gumley

**ULTRASONOGRAPHIC FINDINGS**

**HOSPITAL NAME**

Cedarview AH

- Gallbladder mucocele with some subtle evidence of inflammation surrounding the gallbladder.
- Heterogeneous, partially cavitated liver nodule/mass – This could represent concurrent infiltrative neoplasia such as sarcoma, hepatocellular carcinoma versus other. However, benign cysts, hematomas, abscesses, or even marked nodular hyperplasia can mimic infiltrative neoplasia and cannot be differentiated without tissue sampling.
- Concurrent mild or possible resolving acute pancreatitis is also suspected.

**REFERRING VET**

Dr. Christie Limbrick

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**INVOICE**

43138

This patient's icterus is most likely the result of the gallbladder mucocele with unknown contributions from the pancreatitis and/or liver mass. Subjectively, the pancreatitis looks milder than the lab work would suggest if pancreatitis were the only culprit, lending evidence to the mucocele being the primary contributing factor in my opinion.

**DATE**

6/13/23

Therefore, when patient is stable enough to undergo surgery, an exploratory laparotomy is recommended for both cholecystectomy and liver lobectomy/mass removal. While ultrasound alone can't definitively guarantee full resectability of the liver mass, it is focal and peripheral and appears likely resectable.



**PATIENT**

Rambo Perron

Prior to surgery, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

**SPECIES**

Canine

If surgery is not an option, aggressive supportive/symptomatic medical management of possible pancreatitis as well as the mucocele is recommended in the form of fluid therapy, antiemetics, gastroprotectants, appetite stimulants, or nutritional support as needed, pain management, broad-spectrum antibiotics, etc. Having said that, medical management alone could result in gallbladder rupture.

**BREED**

Jack Russell

**SEX**

Neutered Male

**AGE**

14 Years

**WEIGHT**

8.6 kg

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Dr. Nigel Gumley

**HOSPITAL NAME**

Cedarview AH

**REFERRING VET**

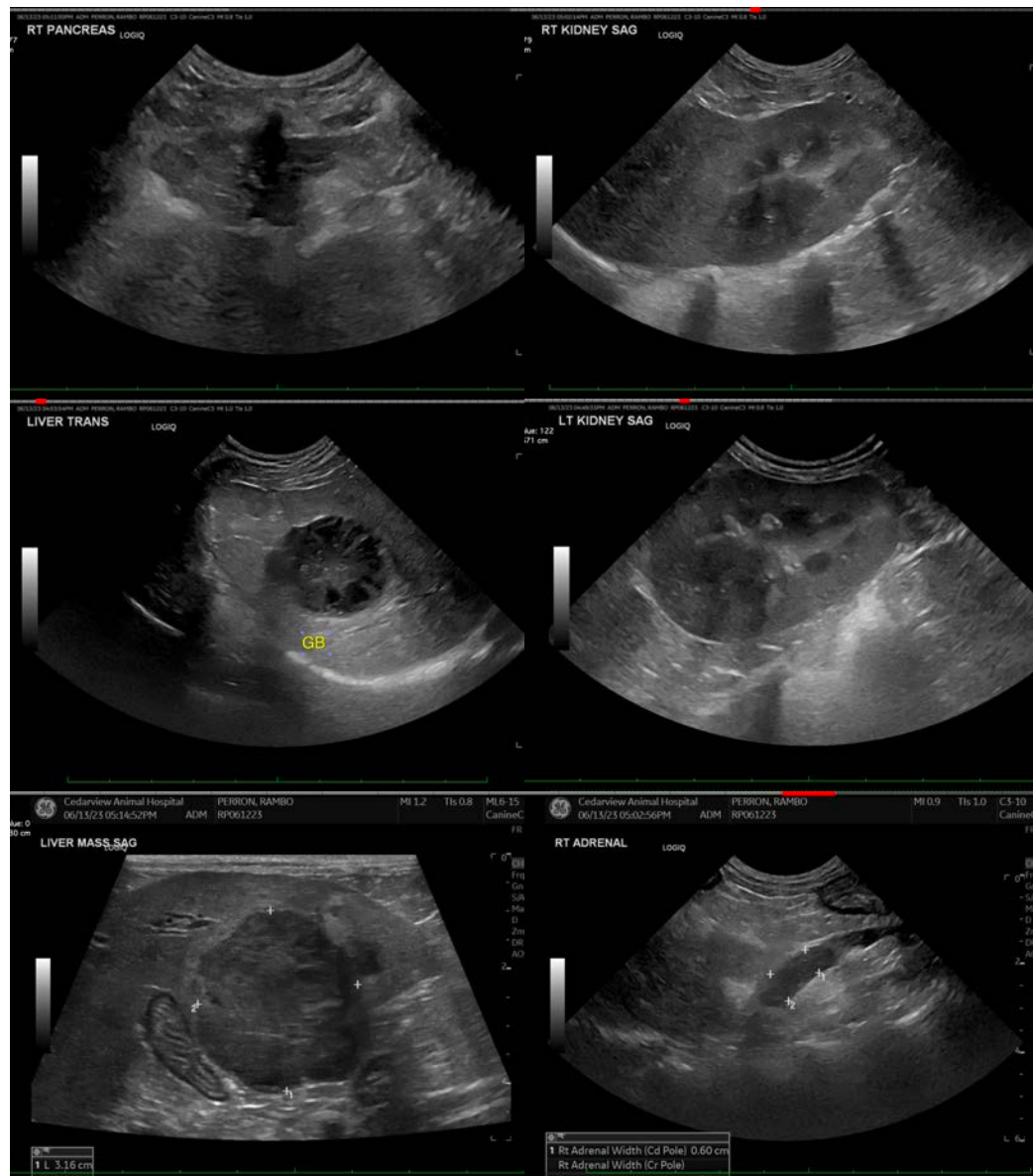
Dr. Christie Limbrick

**INVOICE**

43138

**DATE**

6/13/23





**PATIENT**

Rambo Perron

**SPECIES**

Canine

**BREED**

Jack Russell

**SEX**

Neutered Male

**AGE**

14 Years

**WEIGHT**

8.6 kg

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Dr. Nigel Gumley

**HOSPITAL NAME**

Cedarview AH

**REFERRING VET**

Dr. Christie Limbrick

**INVOICE**

43138

**DATE**

6/13/23



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.

**Beth Johnson, DVM, DACVIM**  
info@sonopath.com