



**PATIENT**

Laci Barr

**PRESENTING CLINICAL SIGNS**

History: sudden collapse at home yesterday, AFAST and TFAST appear normal

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A very small amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass. A small amount of effusion is noted dorsally.

**BREED**

Border Collie Cross

**SEX**

Spayed Female

**Kidneys**

The **left** kidney measures 6.41 cm. The capsule is smooth. The cortex is mildly hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. Blood flow is adequate. The surrounding mesentery is not hyperechoic.

**AGE**

13 years

The **right** kidney measures 7.28 cm. Findings are similar to the left kidney.

**WEIGHT**

31 kg

**Aortic bifurcation/trifurcation**

No abnormalities observed.

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**Adrenal Glands**

The **left** adrenal gland measures 0.73 cm at the cranial pole (high end of normal reference range), 0.57 cm at the caudal pole and 2.49 cm in length. A mass or nodule is not present at the cranial pole however it is mildly plump. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**IMAGING PERFORMED BY**

Kelly Reschny, RVT

The **right** adrenal gland measures 0.57 cm at the cranial pole, 0.54 cm at the caudal pole and 1.95 cm in length. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**HOSPITAL NAME**

New Hamburg VC

**REFERRING VET**

Dr. Blier

**Spleen**

The spleen is within normal limits in size and the capsule is smooth. A very subtle, but diffuse miliary or moth eaten echotexture is present. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. The mesentery surrounding the spleen is markedly hyperechoic. A small amount of effusion is noted dorsally.

**INVOICE**

30352

**DATE**

5/13/22

**Liver**



<b>PATIENT</b>	There are no obvious signs of hepatomegaly. The liver's borders are smooth, but mildly rounded. A diffuse, mildly coarse or granular echotexture is observed until the left liver, i.e., a heterogenous mass effect is observed in the left liver. It is characterized by large and irregular hyperechoic regions, as well as smaller, ill-defined, hypoechoic areas. The subcostal view of the liver has a similar appearance, however, the mixed echogenicity is not encapsulated as a mass and the hyperechoic regions appear disrupted by hypoechoic acini.
Laci Barr	
<b>SPECIES</b>	
Canine	The right liver is more homogeneous, however, portal markings are more apparent, and the hepatic parenchyma dorsal to the GB is moderately to severely hyperechoic. Free fluid is also observed dorso-caudally to the GB.
<b>BREED</b>	
Border Collie Cross	A small amount of effusion is observed surrounding the left liver. No obvious abnormalities are noted with the hepatic vessels.
<b>SEX</b>	
Spayed Female	The gallbladder wall is within normal limits in thickness and echogenicity. There is no evidence of echogenic material within the GB or edema surrounding it. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.
<b>AGE</b>	
13 years	<b>Gastrointestinal</b>
<b>WEIGHT</b>	
31 kg	The gastric wall is within normal limits in thickness and the wall layers are well defined. Peristalsis appears mildly decreased. Subjectively, the pylorus appears mildly edematous.
<b>INTERPRETED BY</b>	
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	The duodenum is within normal limits in thickness and the definition of wall layers is preserved. Peristalsis appears mildly decreased.
<b>IMAGING PERFORMED BY</b>	
Kelly Reschny, RVT	No abnormalities are observed with the small intestines. Abnormally dilated loops of bowel are not observed.
<b>HOSPITAL NAME</b>	
New Hamburg VC	The colonic wall is not thickened and mural detail is considered normal.
<b>REFERRING VET</b>	
Dr. Blier	There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.
<b>INVOICE</b>	
30352	<b>Pancreas</b>
<b>DATE</b>	
5/13/22	No overt abnormalities are observed with the echogenicity or echotexture of the pancreas. The severe hyperechogenicity of the mesentery surrounding the limbs does not appear to be a result of pancreatitis.
	<b>Other</b>
	<b>Lymph nodes</b>
	No abnormalities observed.
	<b>Abdominal effusion</b>
	A very small amount of anechoic fluid is visualized dorsal to the spleen and dorsal to the urinary bladder, as well as surrounding the left liver.


**PATIENT**
**Mesentery**

Laci Barr

The omentum is moderately to markedly hyperechoic throughout the entire abdomen.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

BREED	CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
Border Collie Cross	<b>CARDIAC PARAMETERS</b>	<b>VMAX</b> (m/s)	<b>VMAX</b> (m/s)	(Boon method)	(Heart Base; Swedish)	(%)	(%)	(cm)
<b>SEX</b>	<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
Spayed Female	<b>PATIENT</b>	2.7	2.3	1.14	1.26	27	54	0.32
<b>AGE</b>								
13 years	<b>CANINE</b>	<b>HR</b> (BPM)	<b>AV</b> <b>VMAX</b> (m/s)	<b>PV</b> <b>MAX</b> (m/s)	<b>BODY WEIGHT</b> kg	<b>LA</b> 2D long axis Base view (cm)	<b>LVIDd</b> Avg; 2D and m-mode short axis (cm)	<b>LVIDs</b> Avg; 2D and m- mode short axis (cm)
<b>WEIGHT</b>	<b>CARDIAC PARAMETERS</b>							
31 kg	<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6				
<b>INTERPRETED BY</b>	<b>PATIENT</b>	106	1.2	4.2	31 kg	3.54  LAN = 1.10	3.09  LVIDND =	2.27
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. JVIM 1991; 5: 232, and Jacobs et al. Am J Vet Res 1985; 46:1705							

**HOSPITAL NAME**

New Hamburg VC

- Mild myxomatous degeneration of the septal leaflet. No prolapse evident.
- Moderate mitral regurgitation, with two jets, one of which has a posterior direction.
- Mild left atrial enlargement
- No left ventricular enlargement
- Absence of myxomatous degeneration of the tricuspid valve
- Trivial tricuspid regurgitation (colour Doppler).
- No right ventricular or atrial enlargement.
- Pulmonic valve, no abnormalities.
- Pulmonary veins, no abnormalities.

**REFERRING VET**

Dr. Blier

**INVOICE**

30352

**DATE**

5/13/22



**PATIENT**

Laci Barr

**SPECIES**

Canine

**BREED**

Border Collie Cross

**SEX**

Spayed Female

**AGE**

13 years

**WEIGHT**

31 kg

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Kelly Reschny, RVT

**HOSPITAL NAME**

New Hamburg VC

**REFERRING VET**

Dr. Blier

**INVOICE**

30352

**DATE**

5/13/22

- Pulmonary artery - bifurcation, no abnormalities.
- Pulmonary artery: aortic ratio within normal limits (0.88).
- Scant pulmonary insufficiency (not measurable)
- No signs of heart worm.
- No signs of pericardial or pleural effusion
- No evidence of pulmonary edema.
- No obvious signs of a mass.

**ULTRASONOGRAPHIC ABDOMINAL FINDINGS**

- Hepatic changes are suggestive of an adenocarcinoma or carcinoma that likely ruptured, and caused Laci to bleed. Acute hypotension may have ensued and caused Laci to collapse. Other differential diagnoses include hemangiosarcoma and histiocytic sarcoma.
- The ascites, in conjunction with the non-regenerative anemia on Laci's CBC, is suggestive of hemorrhage (i.e., it is too early to see a response).
- The diffuse and marked hyperechogenicity of the mesentery is attributed to a severe inflammatory response possibly to the ascites present.
- The plump cranial pole of the left adrenal gland is most likely due to hyperplasia secondary to stress, for example, chronic illness. There is no evidence of a mass or nodule.
- The renal changes appear to be age related.

**ULTRASONOGRAPHIC ECHOCARDIOGRAM FINDINGS**

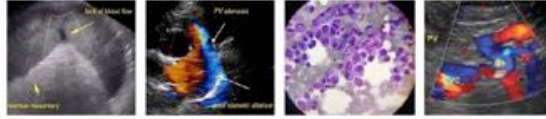
- Mild myxomatous degeneration of the mitral valve, ACVIM stage B2 (early changes)
- The changes observed on today's echocardiogram are not the reason for Laci's collapsing episode.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Abdominocentesis may be performed and the fluid evaluated for neoplastic cells. However, this may not be diagnostic. A fine needle aspirate of the liver is possible however it should be done very carefully and with the 25 gauge needle as the mass is likely necrotic and a FNA can cause further hemorrhaging.

Analgesia, such as gabapentin, is suggested.

A CT and angiogram may be considered to determine whether or not the mass is resectable, however chemotherapy will likely be required postoperatively.



**PATIENT**

Laci Barr

Referral to an oncologist is suggested to discuss the different options, including palliative care.

**SPECIES**

Canine

Treatment for cardiac disease is not necessary or indicated based on the results of the EPIC study.

Other suggestions/recommendations include:

- Evaluation of blood pressure

**BREED**

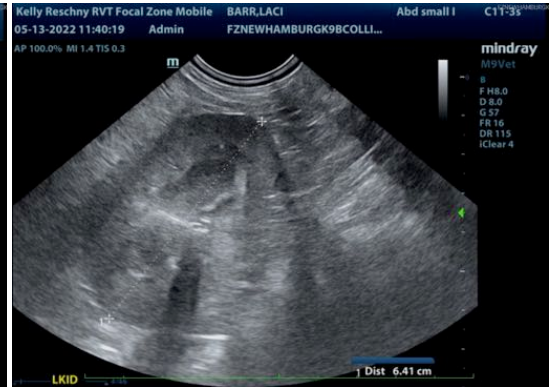
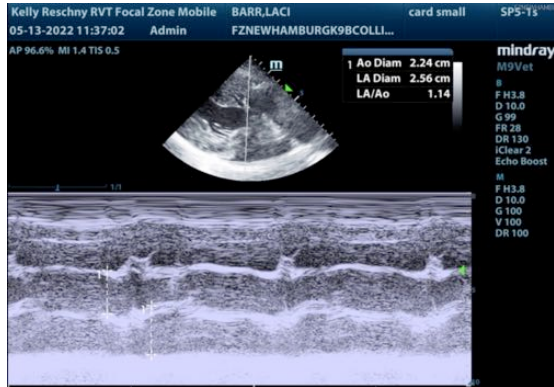
Border Collie Cross

**SEX**

Spayed Female

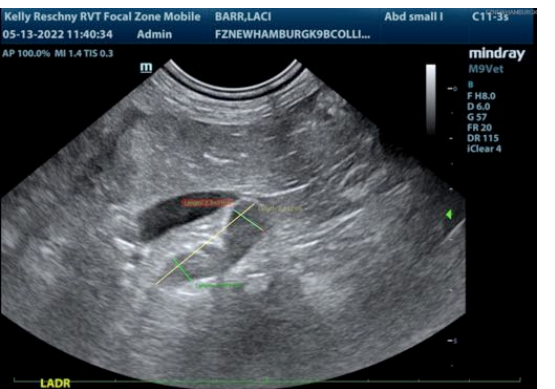
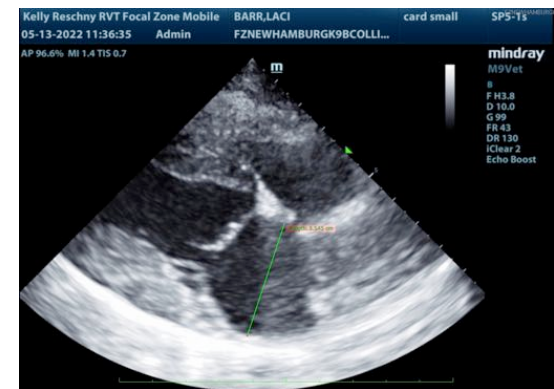
**AGE**

13 years



**WEIGHT**

31 kg

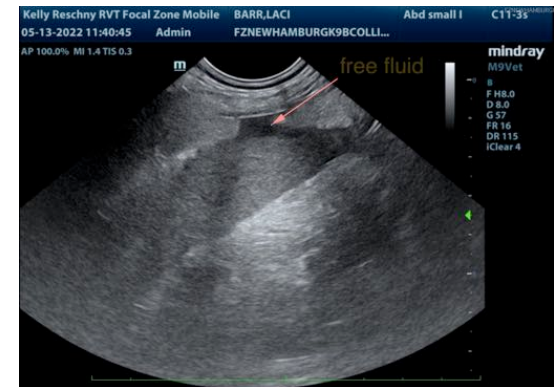


**INTERPRETED BY**

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

**IMAGING PERFORMED BY**

Kelly Reschny, RVT



**HOSPITAL NAME**

New Hamburg VC

**REFERRING VET**

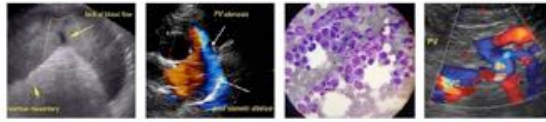
Dr. Blier

**INVOICE**

30352

**DATE**

5/13/22



**PATIENT**

Laci Barr

**SPECIES**

Canine

**BREED**

Border Collie Cross

**SEX**

Spayed Female

**AGE**

13 years

**WEIGHT**

31 kg

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING  
PERFORMED BY**

Kelly Reschny, RVT

**HOSPITAL NAME**

New Hamburg VC

**REFERRING VET**

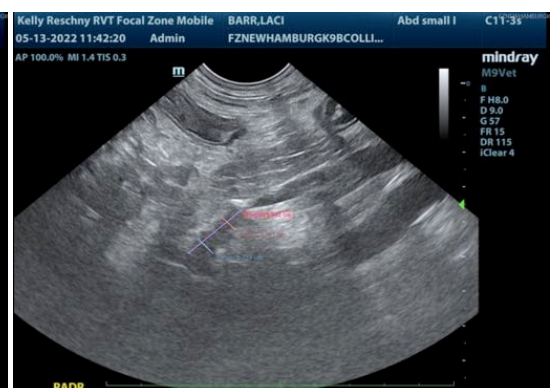
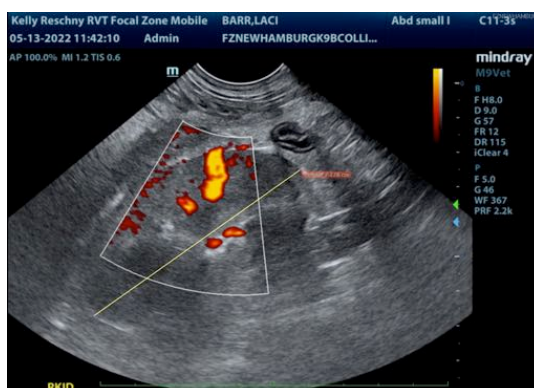
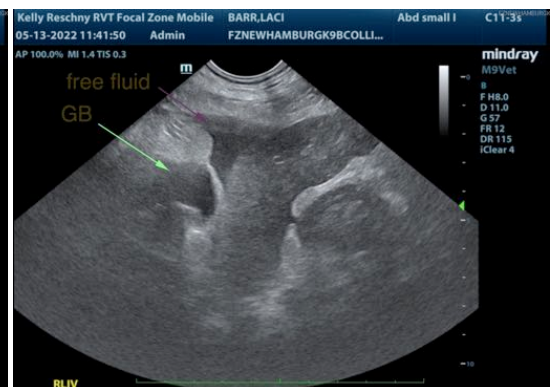
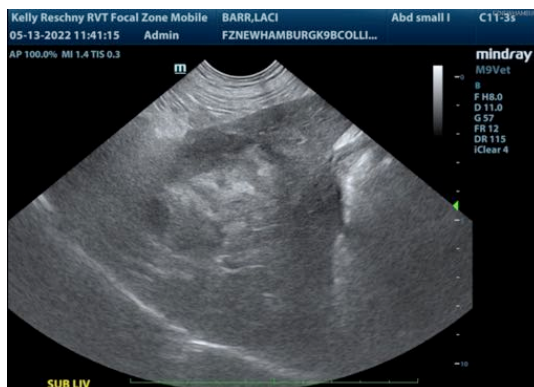
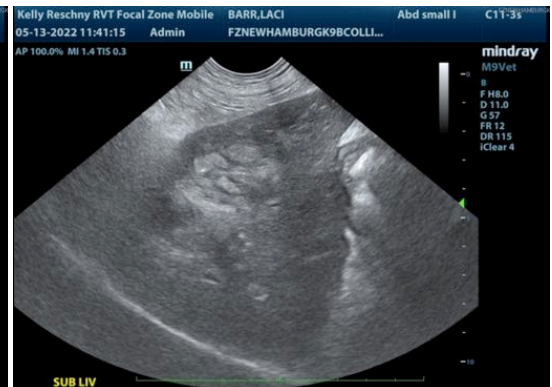
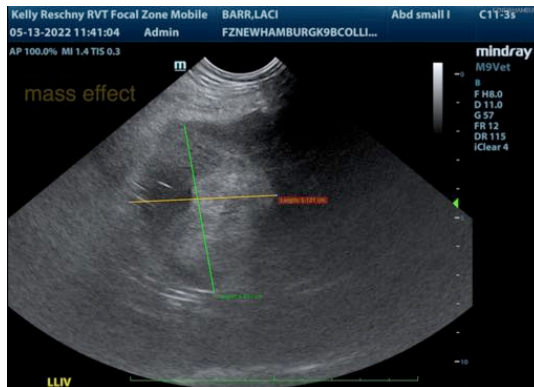
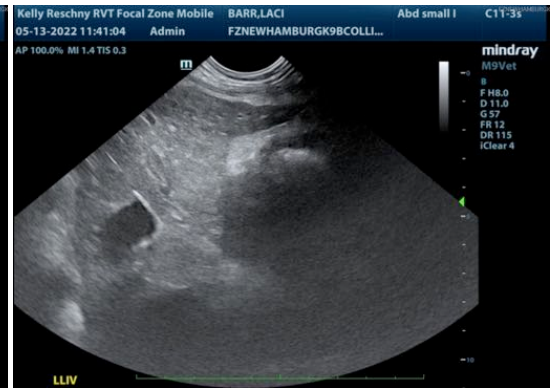
Dr. Blier

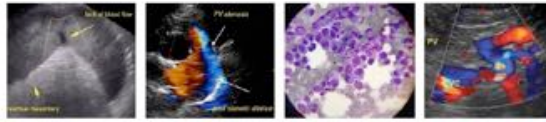
**INVOICE**

30352

**DATE**

5/13/22





**PATIENT**

Laci Barr

**SPECIES**

Canine

**BREED**

Border Collie Cross

**SEX**

Spayed Female

**AGE**

13 years

**WEIGHT**

31 kg

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING  
PERFORMED BY**

Kelly Reschny, RVT

**HOSPITAL NAME**

New Hamburg VC

**REFERRING VET**

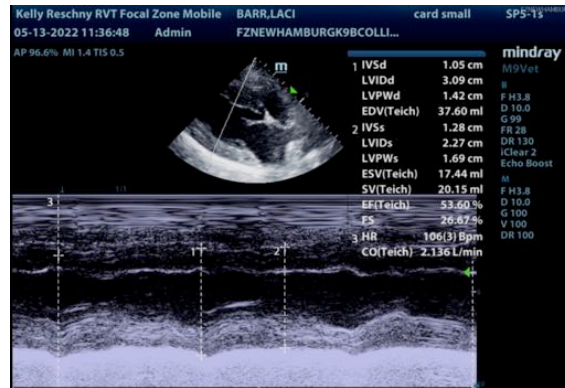
Dr. Blier

**INVOICE**

30352

**DATE**

5/13/22



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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

[Lisa.Carioto@sonopath.com](mailto:Lisa.Carioto@sonopath.com)