



PATIENT

Bella Chevere

SPECIES

Canine

BREED

Puggle

SEX

Spayed Female

AGE

14 Years

WEIGHT

27.8 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Animal General
on the Hudson

REFERRING VET

Dr. William Freedman

INVOICE

39902

DATE

7/27/22

PRESENTING CLINICAL SIGNS

Patient presents for recent collapse episodes, no heart murmur, history of Cushing's. Current med: trilostane, thyrotabs, gabapentin, and tramadol.

Abnormal PE/Chem/CBC/UA Results: HCT 33%, Alk. Phos. 1834, neuts. 19.38, monocytes 1.14.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately, but not fully distended. Its contents are anechoic. Although the urinary bladder is not fully distended, it is evident that the wall is thickened (0.20 cm) and mildly irregular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 4.89 cm. The capsule is smooth. 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. An accumulation of intrapelvic fat is noted. The mesentery surrounding the kidney medially is moderately to severely hyperechoic.

The **right** kidney measures approximately 4.99 cm. Findings are similar to the left kidney.

Aortic bifurcation/trifurcation No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.79 cm at the cranial pole, 0.45 cm at the caudal pole and 1.86 cm in length. The cranial pole is in the form of a well-defined nodule that has a mildly irregular border. No abnormalities are noted with the gland's echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.47 cm at the cranial pole, 0.50 cm at the caudal pole and 1.58 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 in the still image provided. The cine loops provided show summation of the adrenal gland and surrounding blood vessels, as well as irregular borders.

Spleen

The spleen is within normal limits in size. No obvious abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Multiple nodules are noted:

- **Head:** A relatively homogeneous nodule, 0.60 cm in diameter x 0.81 cm in length, is noted at the head.
- **Tail, nodule #1:** A mildly heterogeneous nodule measuring 0.73 cm in diameter x 1.34 cm in length is noted toward the tail. Although the capsule is slightly irregular as a result, the subcapsular nodule does not disrupt its integrity. In another view, the nodule measures 0.86 cm in diameter.
- **Tail, mass #1:** A larger, heterogeneous mass, is observed originating at the tail. It measures approximately 3.0 cm in diameter x 3.34 cm in length. This mass is mildly to moderately



PATIENT

Bella Chevere

heterogeneous, consisting of parenchyma similar to the rest of the spleen, with hyperechoic nodules of variable size and echogenicity. A couple of echogenic/mildly hyperechoic nodules are noted throughout the primary nodule, in addition to a few ill-defined hypoechoic areas. The first measures 0.43 cm in diameter x 0.42 cm in length. The second nodule is 0.46 cm in diameter x 0.53 cm in length. The primary nodule measures 2.15 cm in diameter x 1.98 cm in length in a different view. *The mass is well vascularized and disrupts the integrity of the splenic capsule.*

SPECIES

Canine

Liver

BREED

Puggle

Hepatomegaly is present, i.e. multiple lobes are considered within normal limits in size, while others are severely enlarged and distorted by infiltration of a mass. Overall, the liver's borders are smooth, but rounded. A number of liver lobes are mildly heterogeneous, suggestive of benign, nodular hyperplasia, however, a large, severely heterogeneous mass, appears to have "infiltrated or invaded" the right liver, including the caudate lobe. It measures at least 6.84 cm in diameter x 7.87 cm in length, and consists of ill-defined hyper and hypoechoic nodules and "patches". The mass measures approximately 7.96 cm in diameter x 9.68 cm in length in a different view. No obvious abnormalities are noted with the hepatic vessels, including those within the right liver.

SEX

Spayed Female

The gallbladder wall is within normal limits in thickness and echogenicity. A small amount of echogenic material is present within the GB. 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.

AGE

14 Years

WEIGHT

27.8 Pounds

Gastrointestinal

A large amount of ingesta and gas are present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

The small intestinal wall thickness is within normal limits and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed.

The colonic wall is not thickened (0.18 cm), and mural detail is considered normal.

IMAGING PERFORMED BY

Kelly Vazquez

Pancreas

No overt abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

HOSPITAL NAME

Animal General
on the Hudson

An in-depth evaluation of the right limb is not possible due to the hepatic mass.

Other

Lymph nodes No abnormalities are observed

Abdominal effusion is not visualized.

REFERRING VET

Dr. William Freedman

Heart

INVOICE

39902

No obvious abnormalities are observed in terms of pericardial or pleural effusion, or pulmonary edema. A complete echocardiogram and electrocardiogram are required to exclude subtle changes that could explain syncope.

DATE

7/27/22



PATIENT

Bella Chevere

SPECIES

Canine

BREED

Puggle

SEX

Spayed Female

AGE

14 Years

WEIGHT

27.8 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Animal General
on the Hudson

REFERRING VET

Dr. William Freedman

INVOICE

39902

DATE

7/27/22

ULTRASONOGRAPHIC FINDINGS

- **Liver:** Hepatomegaly with signs of severe nodular hyperplasia, and high index of suspicion of an adenoma or well-differentiated adenocarcinoma of the right liver or caudate liver lobe.
- **Gallbladder:** Very mild gallbladder sludge, without obvious signs of an obstruction.
- **Spleen:** Multiple splenic nodules, which may be due to extramedullary hematopoiesis, lymphoid or nodular hyperplasia. The larger, mildly to moderately heterogeneous splenic mass located at the tail is vascularized. The latter may be caused by a histiocytic sarcoma, hematoma, carcinoma or other malignant neoplasm.
- **Kidneys:** Renal changes are suggestive of age-related changes. Obvious signs of neoplasia are not evident.
- **Urinary bladder:** A chronic cystitis, subclinical bacteriuria cannot be excluded based on the thickened mucosa. There are no obvious signs of neoplasia.
- **Adrenal glands:** The cranial pole of the left gland is mildly enlarged and irregular, with presence of a nodule. There are no obvious signs of neoplasia to suggest neoplasia, however, a pheochromocytoma, causing intermittent hypertension and hypotension cannot be excluded.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The following are suggested/recommended:

Arterial blood pressure. A few readings may be required (two or three visits) to diagnose or exclude hypertension before excluding or infirming hypertension, particularly if Bella is extremely anxious or nervous.

If hypertensive, urine may be tested for metanephrines to exclude a possible pheochromocytoma.

A 10-minute ECG or Holter monitor may reveal an arrhythmia that could explain syncope.

Fine needle aspirates of the liver (the “more normal parenchyma” and “mass effect”) and the splenic masses are suggested, pending a coagulation profile.

Insulin, insulin-like growth factor, and glucose concentrations may be evaluated to determine whether Bella is suffering from a hepatic mass causing hypoglycemia, weakness, and “collapse”.

Although it does not explain the syncope, a urinalysis and urine culture to exclude a urinary tract infection or subclinical bacteriuria.

A urine protein: creatinine ratio may be necessary if the latter is negative, i.e. proteinuria may cause microthrombi and thromboemboli.

A complete echocardiogram and electrocardiogram are required to exclude subtle changes that could explain syncope.



PATIENT

Bella Chevere

SPECIES

Canine

BREED

Puggle

SEX

Spayed Female

AGE

14 Years

WEIGHT

27.8 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

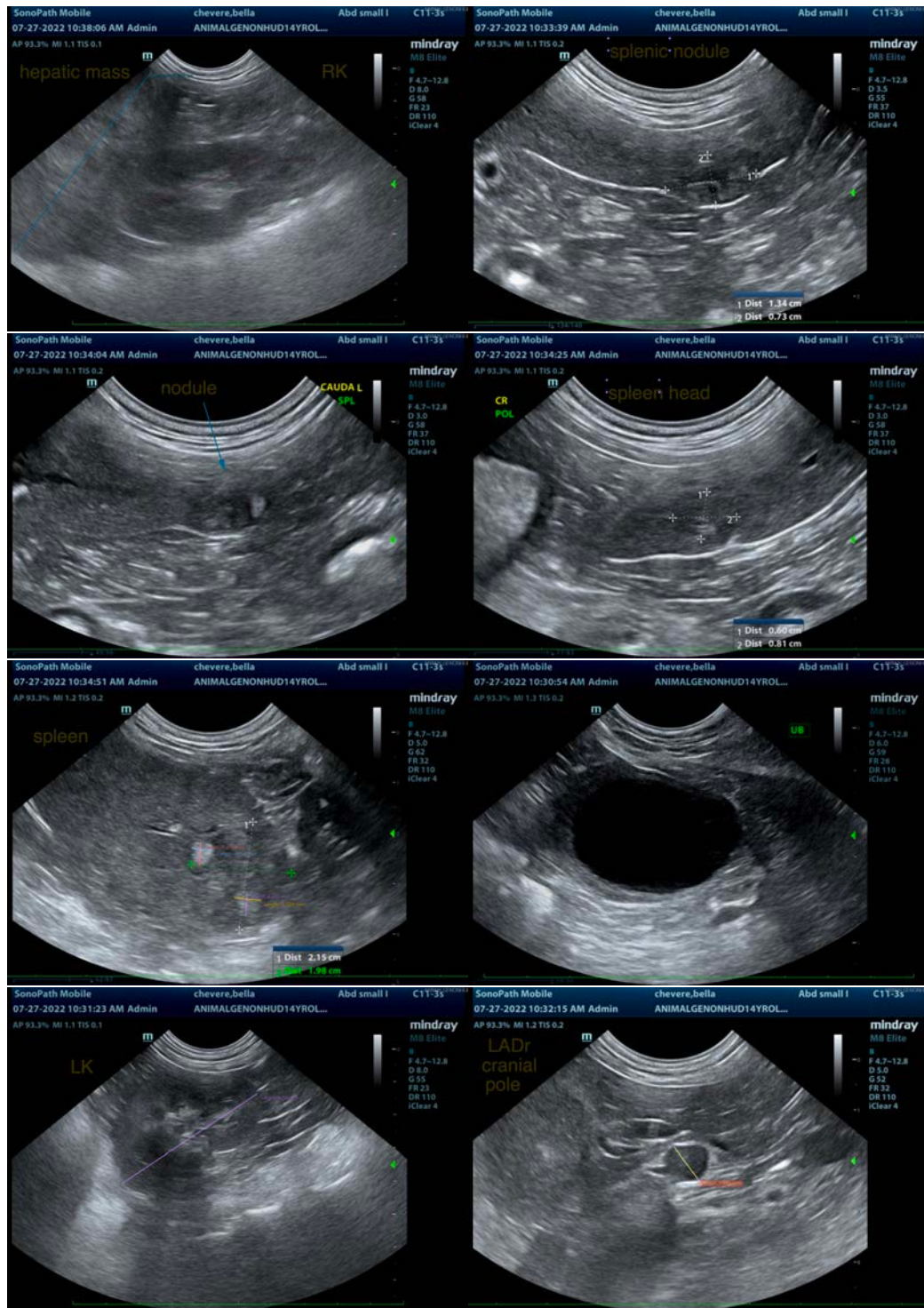
Kelly Vazquez

HOSPITAL NAME

Animal General
on the Hudson

REFERRING VET

Dr. William Freedman



INVOICE

39902

DATE

7/27/22



PATIENT

Bella Chevere

SPECIES

Canine

BREED

Puggle

SEX

Spayed Female

AGE

14 Years

WEIGHT

27.8 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

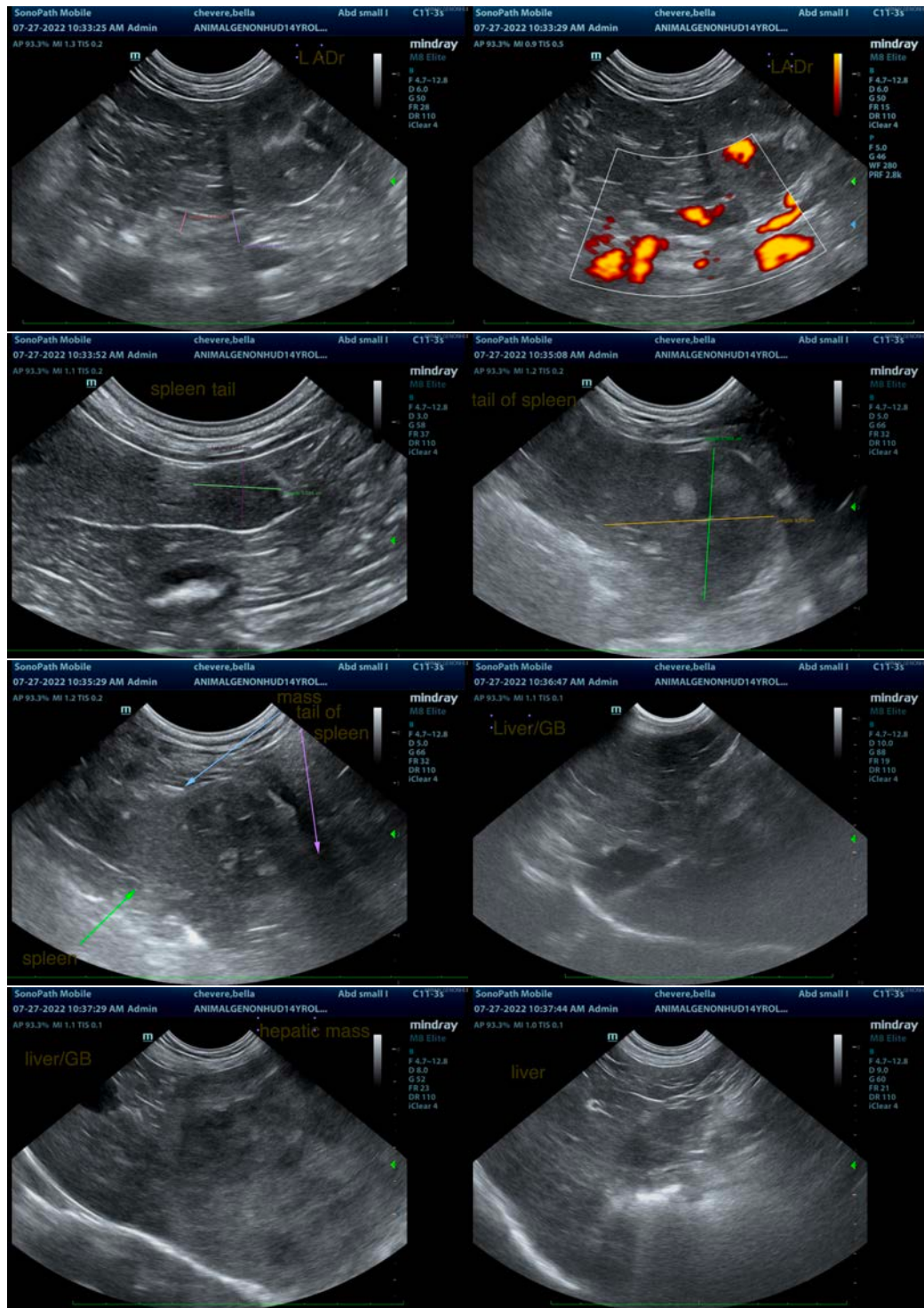
Kelly Vazquez

HOSPITAL NAME

Animal General
on the Hudson

REFERRING VET

Dr. William Freedman

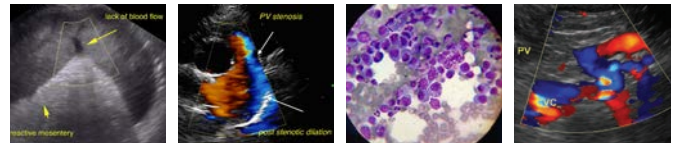


INVOICE

39902

DATE

7/27/22



PATIENT

Bella Chevere

SPECIES

Canine

BREED

Puggle

SEX

Spayed Female

AGE

14 Years

WEIGHT

27.8 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

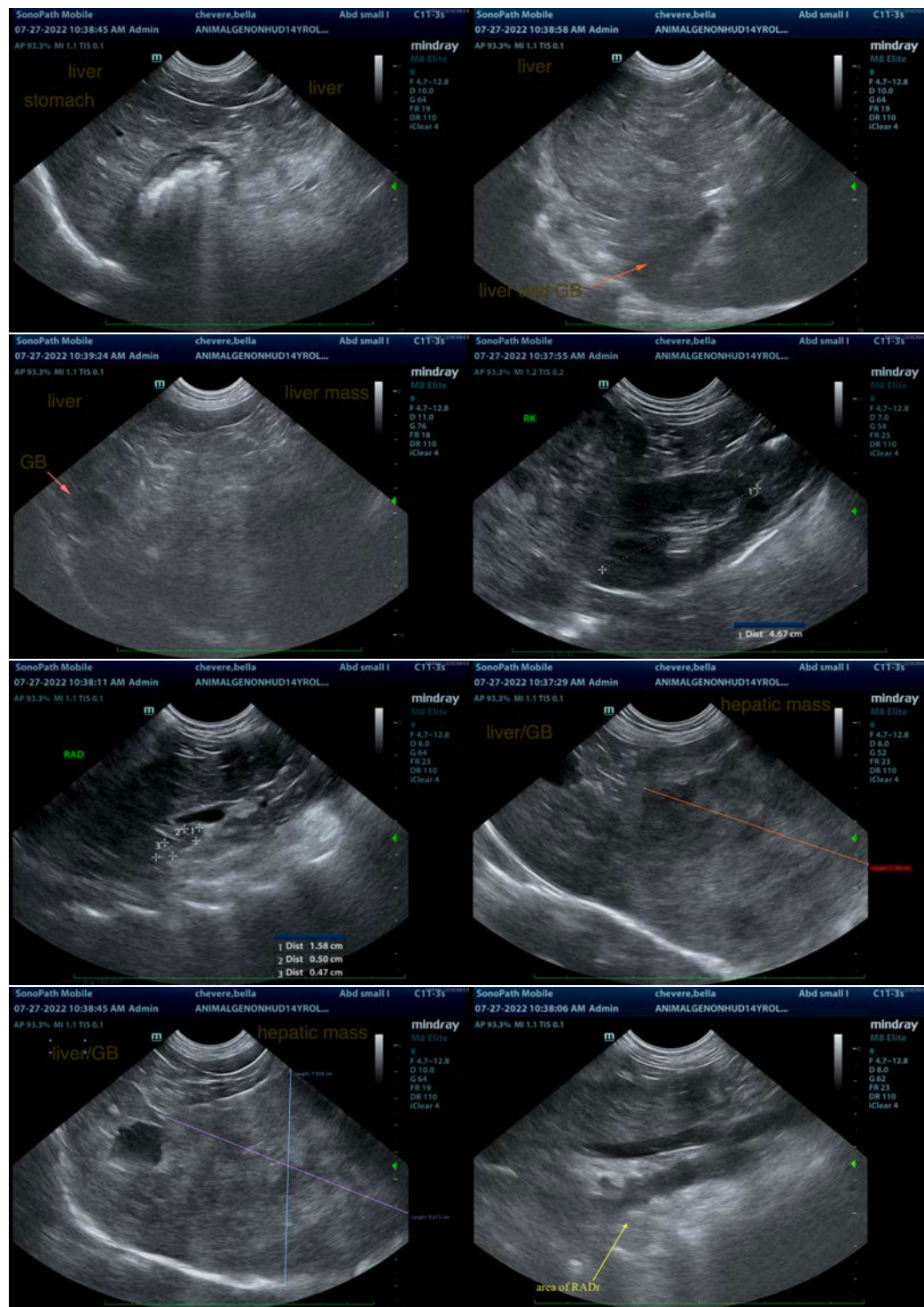
Kelly Vazquez

HOSPITAL NAME

Animal General
on the Hudson

REFERRING VET

Dr. William Freedman



INVOICE

39902

DATE

7/27/22



PATIENT

Bella Chevere

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.

SPECIES

Canine

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

BREED

Puggle

SEX

Spayed Female

AGE

14 Years

WEIGHT

27.8 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

Kelly Vazquez

HOSPITAL NAME

Animal General
on the Hudson

REFERRING VET

Dr. William Freedman

INVOICE

39902

DATE

7/27/22