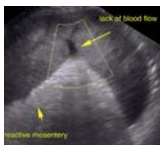
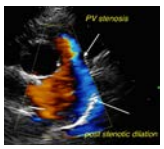
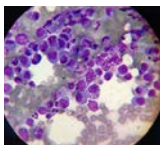
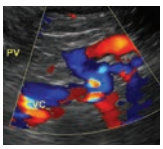
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Spike Arruda

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Neutered Male

AGE
13 Years

WEIGHT
8.4 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Newton Vet Hospital

REFERRING VET
Dr. Kim

INVOICE
41581

DATE
9/23/22

PRESENTING CLINICAL SIGNS

Vomiting, anorexia, lethargy, no urine since admit, mildly elevated RR/RE last night. Elevated alp and T bili (resolved). Current meds: Single dose Furosemide, Cerenia, Famotidine, Metronidazole, Buprenorphine, Entyce

Abnormal PE/Chem/CBC/UA Results: Abnormal Cpl, BUN 24.8 ➡ 47.3, CREA WNL, PHOS 8.4, GLU 140, ALP 276 ➡ 303, TBILI 1.1 ➡ 0.1

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT			1.38	1.3		7036	NM

CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	177	1.2			1.8	1.23	

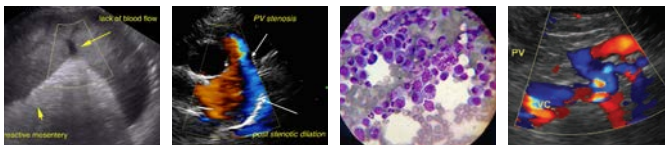
Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented concentric hypertrophy, yet this may be owing to systemic hypertension. Hypocontractility noted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio).

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Spike Arruda

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Neutered Male

AGE
13 Years

WEIGHT
8.4 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Newton Vet Hospital

REFERRING VET
Dr. Kim

INVOICE
41581

DATE
9/23/22

changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. The right kidney measured 4.04 cm. The left kidney measured 3.56 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 2.06 cm x 0.59 cm at the cranial pole and 0.56 cm at the caudal pole. The left adrenal gland measured 1.09 cm x 0.53 cm at the cranial pole and 0.52 cm at the caudal pole.

Caudal to the left adrenal gland, a mineralizing structure was noted, strongly suggestive for carcinoma, possibly linked to the caudal pole of the left adrenal gland. However, complete connection could not be made.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

Liver

The **liver** was swollen and irregular with increased portal markings. The gallbladder presented a minor amount of debris.

Pleural effusion noted throughout the diaphragm.

Gastrointestinal

The **stomach** revealed a hypoechoic 2.75 cm x 1.28 cm mural abscess with regional peritonitis. Empty lumen otherwise. The upper duodenum was enveloped by the pancreatic pathology with spastic contour.

Pancreas

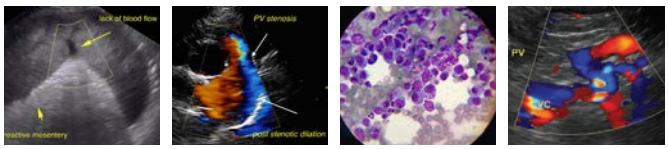
Extensive mixed hypoechoic **pancreatic** pathology noted with areas void of blood flow, consistent with necrosis. Reactive mesentery noted throughout the cranial abdomen associated with the pancreas.

ULTRASONOGRAPHIC FINDINGS

- Left ventricular concentric hypertrophy with hypocontractility – consistent with shock.
- Gastric abscess with regional peritonitis
- Extensive pancreatitis
- Pleural effusion – thoracic neoplasia, pleuritis, or other lung/pleural pathology.
- Mineralizing mass in the region of the left adrenal gland – possible adrenal carcinoma.
- Swollen irregular liver and minor gallbladder debris
- Age related renal changes with mineralization

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Concern for dual cavity neoplasia in this patient. Plasma expansion recommended in this patient. I do not recommend continuation of diuretics, as the patient appears to be hypovolemic. Aggressive



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Spike Arruda

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

13 Years

WEIGHT

8.4 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet Hospital

REFERRING VET

Dr. Kim

INVOICE

41581

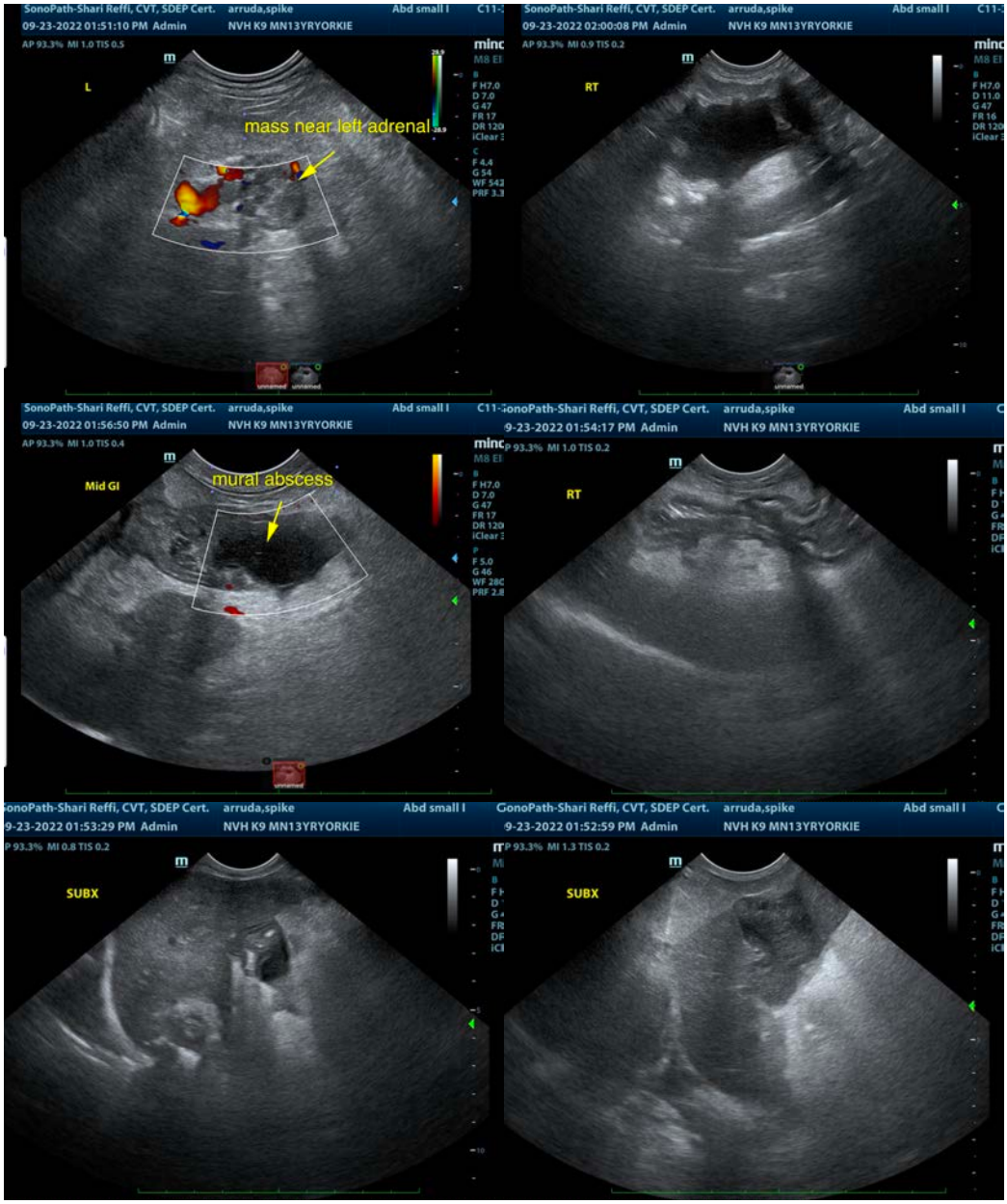
DATE

9/23/22

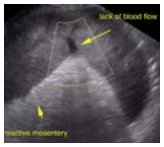
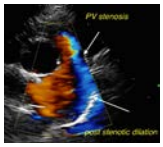
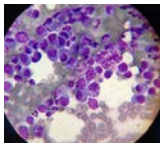
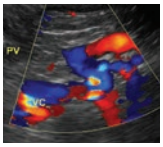
treatment for pancreatitis, ultrasound guided pleurocentesis warranted, +/- ultrasound guided drainage of the presumed mural abscess in the stomach. However, penetrating foreign matter such as a toothpick or similar could not be ruled out, which could be enveloped in the pancreatic pathology. There is an extensive amount of pathology in this patient. Thoracic and abdominal CT would be ideal in this patient. Prognosis is extremely guarded to poor.

SonoPath CT Services are offered at the Blairstown Animal Hospital. Blairstown animal hospital is just a 30-minute drive west on route 80 from the route 80/287 interchange/Parsippany, New Jersey. More information can be found at:

https://sonopath.com/resources/sonopaths-teleconsultation-services-and-sdep-certification/sonopath-ct-services



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Spike Arruda

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

13 Years

WEIGHT

8.4 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet Hospital

REFERRING VET

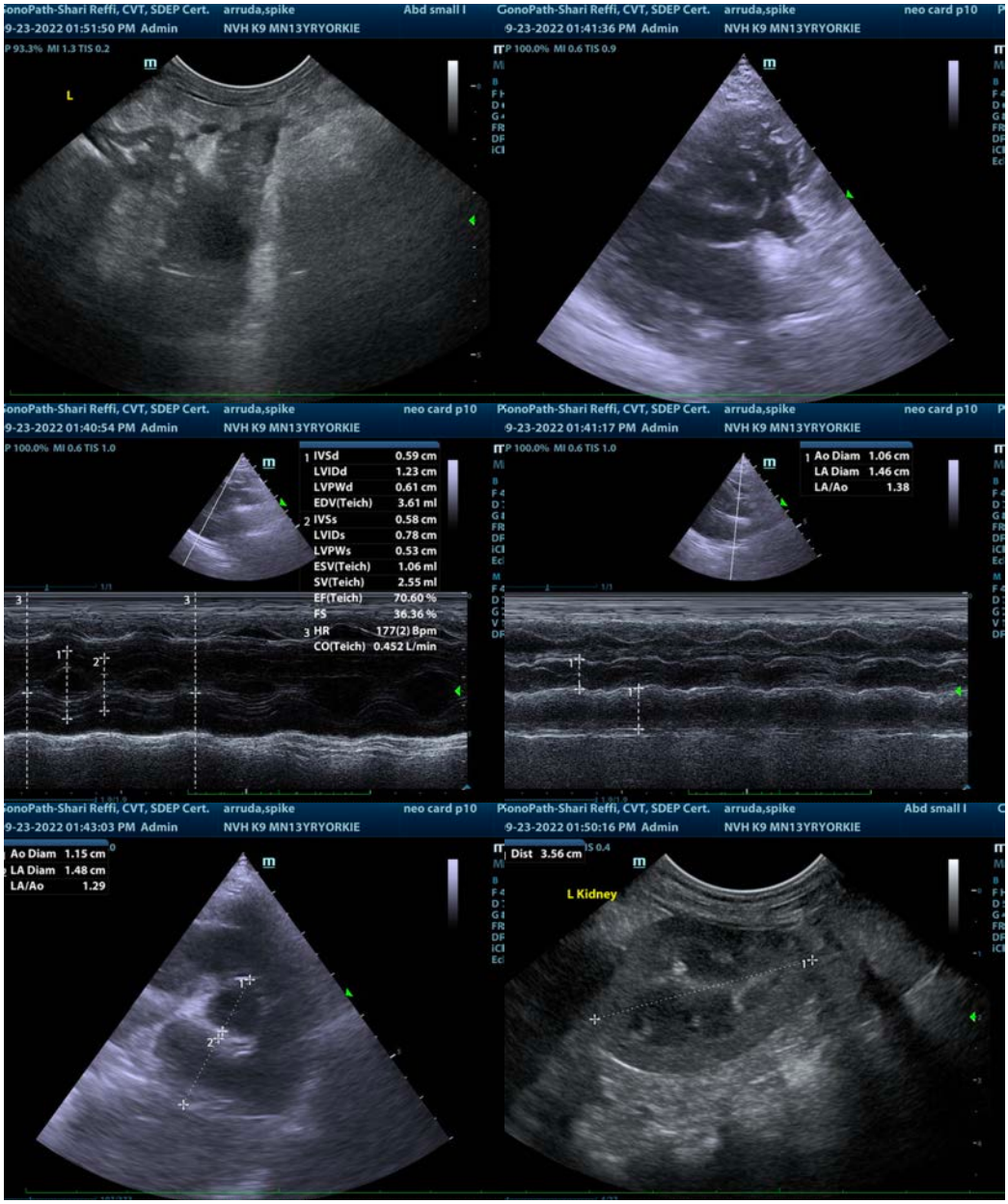
Dr. Kim

INVOICE

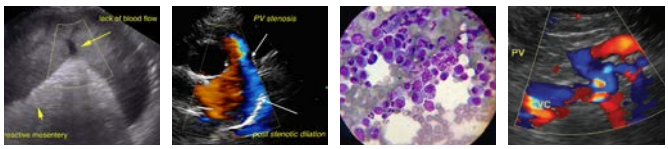
41581

DATE

9/23/22



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Spike Arruda

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

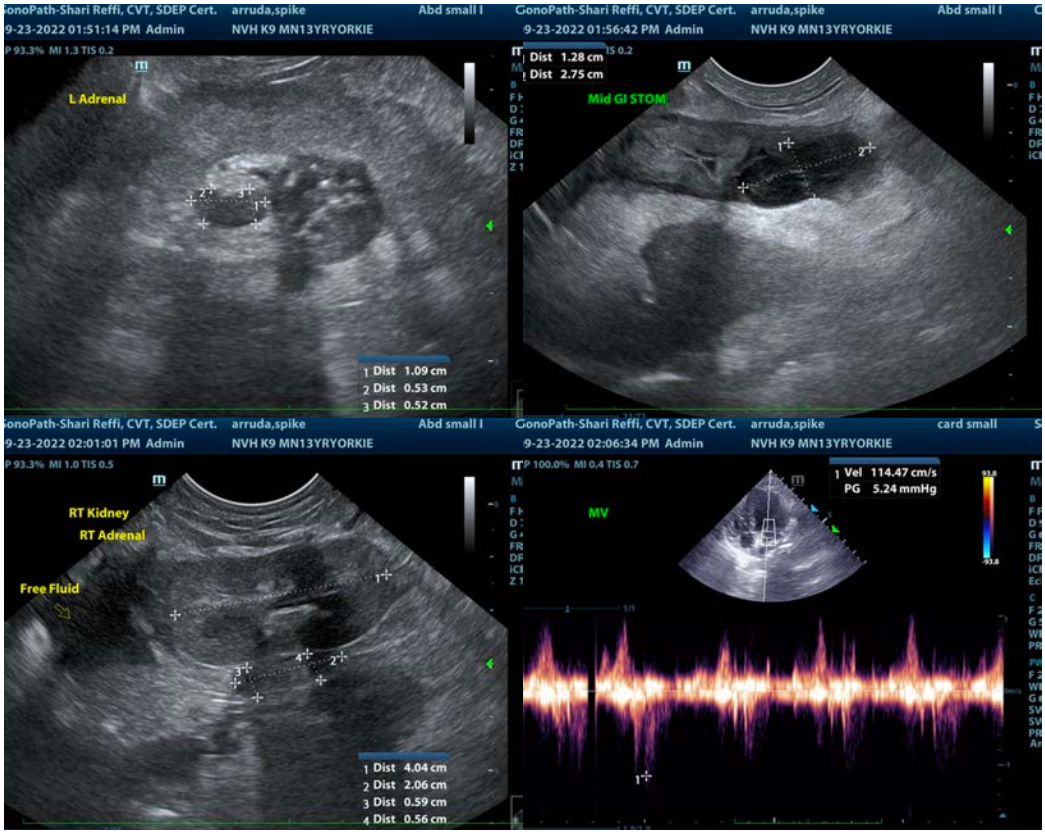
Neutered Male

AGE

13 Years

WEIGHT

8.4 Pounds



INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet Hospital

REFERRING VET

Dr. Kim

INVOICE

41581

DATE

9/23/22

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

info@SonoPath.com