



PATIENT

Thumper Santiago

SPECIES

Canine

BREED

Yorkie

SEX

Neutered male

AGE

13 years

WEIGHT

8.11 lbs

PRESENTING CLINICAL SIGNS

History: Re-checking echo and abdominal ultrasound. Still coughs on and off with crackles, hypertension, dilute urine.

Thyroid panel WNL, T4 was low. Hematuria with some casts.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy. **Tricuspid** insufficiency was noted and moderate. This is consistent with pulmonary hypertension. Mild **right atrial** enlargement was noted. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** was uniformly prominent. No overt heartworms were noted in the main or visible deep pulmonary arteries. Yet, theoretically heartworms could be present in the deep pulmonary vasculature out of visible sonographic range. More likely, however, this prominent right heart is due to excessive intra-thoracic pressures caused by respiratory disease or other causes of increased thoracic vascular pressure. The **left heart** demonstrated a linear **ventricular septum**. The left ventricular septum was not flattened. Contractility was functionally adequate demonstrated by the FS% measurement. The **mitral valve** was not significantly insufficient and no significant **left atrial** dilation was evident. The **left ventricular outflow** demonstrated normal flow patterns and velocities through the aortic valve. No evidence of tumor, pericardial or pleural effusion was noted. The visible **extra-cardiac** tissues were uniformly linear without evidence of masses, infiltrative or inflammatory mediastinal tissue. No evident arrhythmic activity was noted during the exam.

INTERPRETED BY

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

IMAGING PERFORMED BY

Chloe Lowe

HOSPITAL NAME

Magnolia Veterinary Practice

REFERRING VET

Dr. Goldstein

INVOICE

77972

DATE

5/26/26

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO	LA/AO (Heart Base)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT		3.4	NM		33.58	65	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	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	120	1.25	0.94	8.11 lbs	2.5	2.2	



PATIENT

Thumper Santiago

SPECIES

Canine

BREED

Yorkie

SEX

Neutered male

AGE

13 years

WEIGHT

8.11 lbs

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Chloe Lowe

HOSPITAL NAME

Magnolia Veterinary
Practice

REFERRING VET

Dr. Goldstein

INVOICE

77972

DATE

5/26/26

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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 was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 4.08 cm. The left kidney measured 3.74 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 left adrenal gland measured 1.54 x 0.46 cm at the cranial pole and 0.46 cm at the caudal pole. The right adrenal gland measured 2.0 x 0.5 cm.

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 was noted.

Liver

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The primary hepatic veins measure up to 0.28 cm, which is normal. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.



PATIENT

Thumper Santiago

SPECIES

Canine

BREED

Yorkie

SEX

Neutered male

AGE

13 years

WEIGHT

8.11 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Chloe Lowe

HOSPITAL NAME

Magnolia Veterinary
 Practice

REFERRING VET

Dr. Goldstein

INVOICE

77972

DATE

5/26/26

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

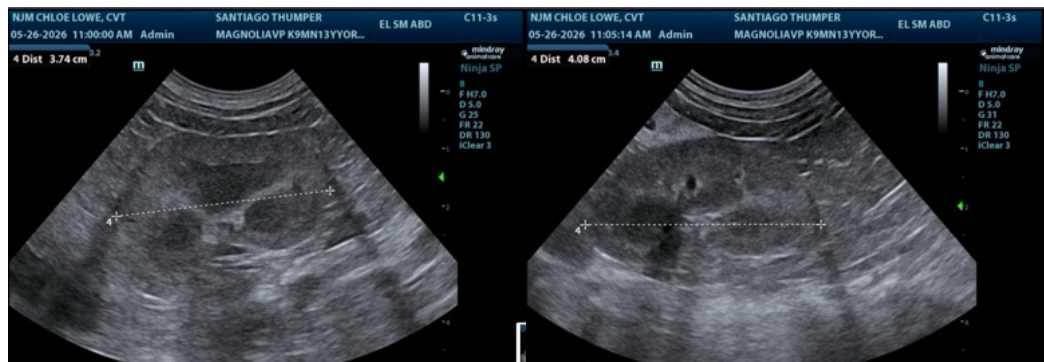
The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

Right-sided heart enlargement – compensated pulmonary hypertension
 Arrhythmogenic activity.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

EKG is indicated to ensure a more significant disease is not present, sinus arrhythmia is likely. Serial blood pressure measurements and EKG are indicated to complete the profile in this patient. No specific therapy is recommended at this time. Chest radiographs are warranted if not already performed. The pulmonary hypertension in my experience should be treated only if right-sided heart failure is developing. There was no evidence of that at this time. If syncope or exercise intolerance issues may be occurring. If no clinical signs are present then no specific treatment is recommended at this time.





PATIENT

Thumper Santiago

SPECIES

Canine

BREED

Yorkie

SEX

Neutered male

AGE

13 years

WEIGHT

8.11 lbs

INTERPRETED BY

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

**IMAGING
 PERFORMED BY**

Chloe Lowe

HOSPITAL NAME

Magnolia Veterinary
 Practice

REFERRING VET

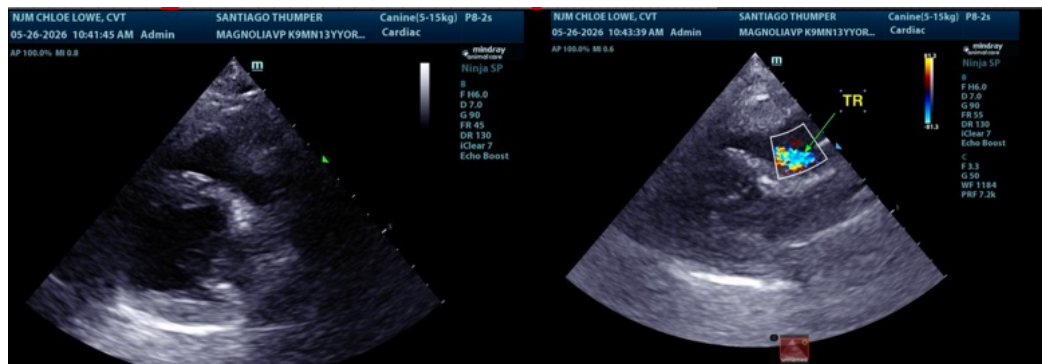
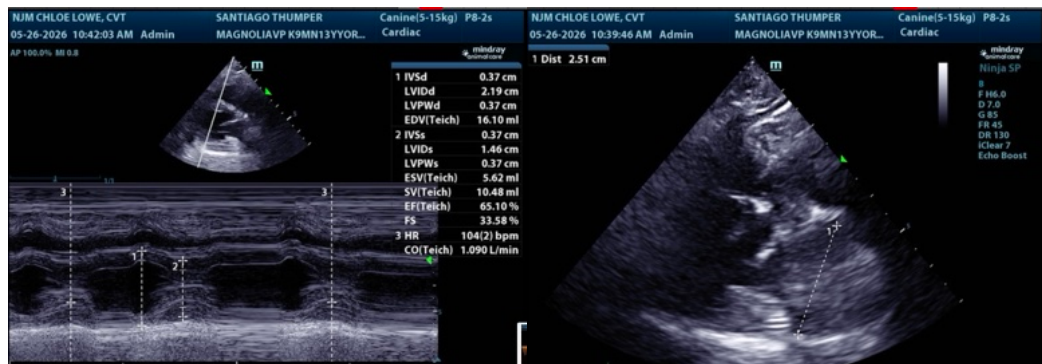
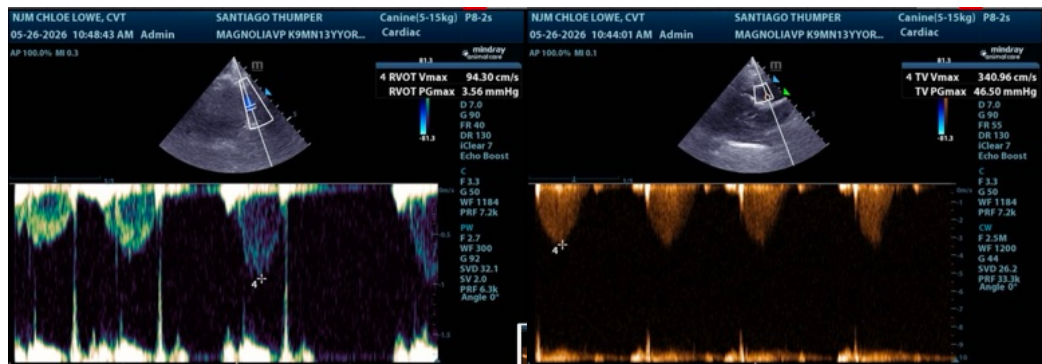
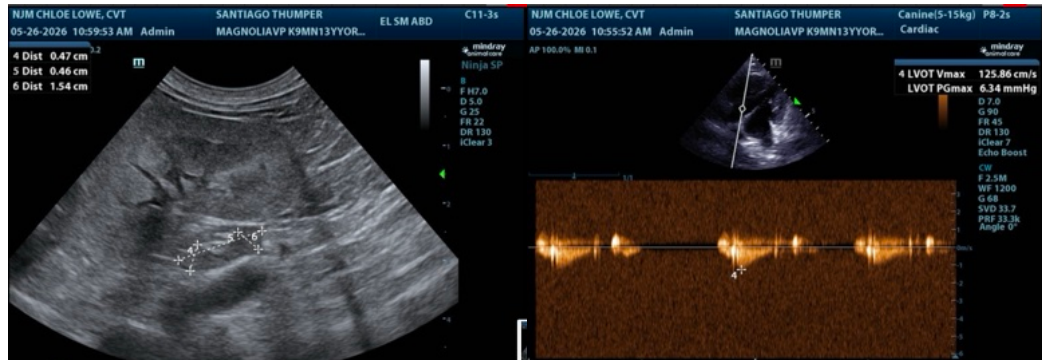
Dr. Goldstein

INVOICE

77972

DATE

5/26/26





PATIENT

Thumper Santiago

SPECIES

Canine

BREED

Yorkie

SEX

Neutered male

AGE

13 years

WEIGHT

8.11 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Chloe Lowe

HOSPITAL NAME

Magnolia Veterinary
 Practice

REFERRING VET

Dr. Goldstein

INVOICE

77972

DATE

5/26/26



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 (CFM), Cert. IVUSS, CEO of SonoPath.com

Info@SonoPath.com