



PATIENT PRESENTING CLINICAL SIGNS

Toby Ricciardelli breathing heavy

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

Canine

BREED

Yorkie

SEX

Neutered Male

AGE

13 Years

WEIGHT

12.5 Pounds

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	5.6		1.1	1.0	50		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			0.66			1.6	

Cardiac Presentation

The echocardiogram presented a prominent **right heart** with mild **right ventricular** hypertrophy, without significant **tricuspid** regurgitation, and normal **right atrial** size. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** was uniformly prominent with mildly depressed pulmonic velocity measured on PW Doppler. 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 chronic respiratory disease or potentially excessive intra-thoracic fat (Pickwickian syndrome). The **left heart** demonstrated a linear **ventricular septum**. Contractility was functionally adequate demonstrated by the FS% measurement. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. No significant **left atrial** dilation was noted. 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. Right atrial to left atrial ratio was 1.5 : 1.0. Hepatic veins were dilated, and pulmonary edema/B-lines noted, consistent with pulmonary hypertension.

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 body wall ventral to the bladder revealed a nodule measuring 1.5 cm.

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

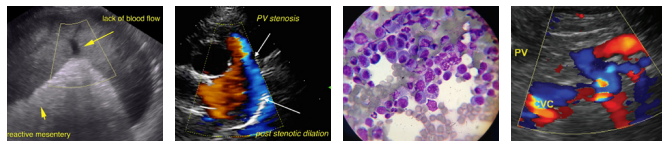
Dr. Maniar

INVOICE

36177

DATE

3/14/22



PATIENT

Toby Ricciardelli

The **kidneys** presented moderate degenerative changes with cortical cysts and cortical infarcts. The left kidney measured 3.55 cm.

Adrenal Glands

SPECIES

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The **right adrenal gland** was uniformly enlarged, measuring 2.74 cm x 1.44 cm at the cranial pole and 1.16 cm at the caudal pole. The **left adrenal gland** was uniformly swollen, measuring 2.39 cm x 1.02 cm at the cranial pole and 0.82 cm at the caudal pole.

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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.

SEX

Neutered Male

Liver

AGE

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The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

WEIGHT

12.5 Pounds

Gastrointestinal

INTERPRETED BY

Eric Lindquist, DMV

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.

DABVP, Cert. IVUSS

Pancreas

IMAGING PERFORMED BY

Jenn

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.

HOSPITAL NAME

Rockaway AH

ULTRASONOGRAPHIC FINDINGS

- Cor pulmonale and pulmonary hypertension
- Emerging right-sided heart failure and diffuse thoracic disease
- Bilateral adrenal hypertrophy – suspect Cushing's.
- Body wall nodule ventral to the urinary bladder – possible sarcoma.

REFERRING VET

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Concern for thromboembolic disease or sudden acute respiratory distress syndrome and secondary pulmonary hypertension. Recommend primary respiratory protocol and adding Sildenafil at 1mg/kg BID x two weeks if the patient is able to be stabilized, then increase to 1.5 mg/kg. Low-dose Spironolactone and Lasix can be utilized as well. However, should be cautious, as hypotension can develop. Blood pressure measurements recommended. Prognosis is extremely guarded.

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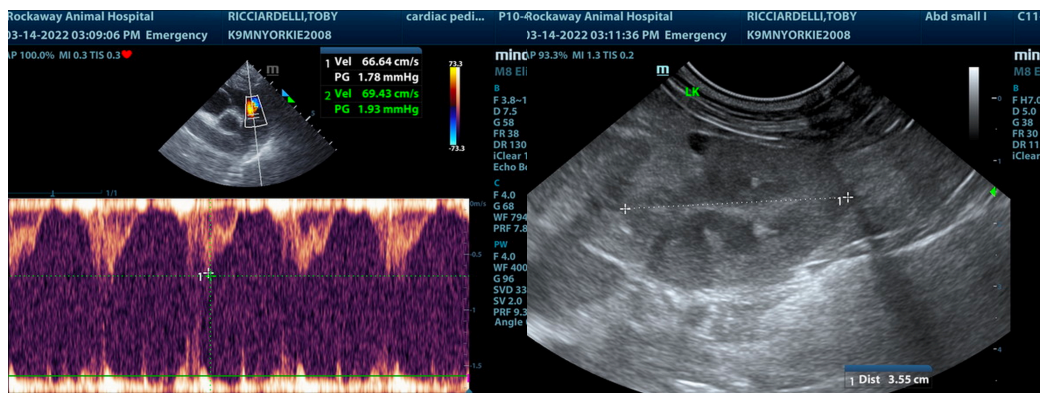
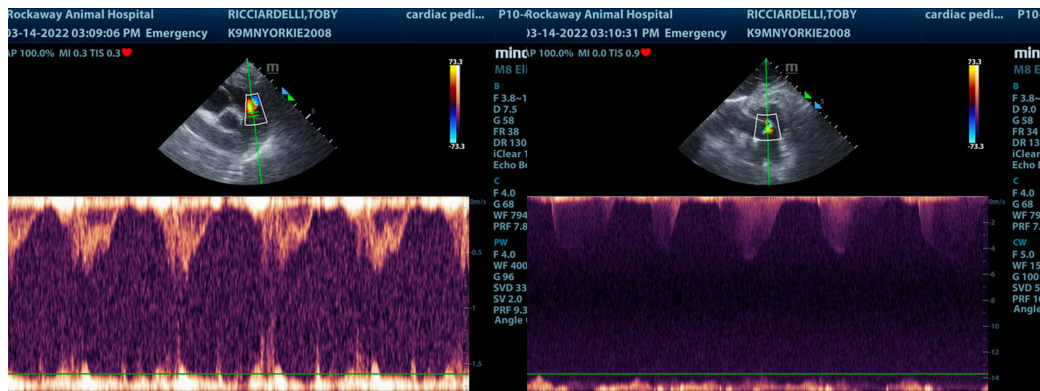
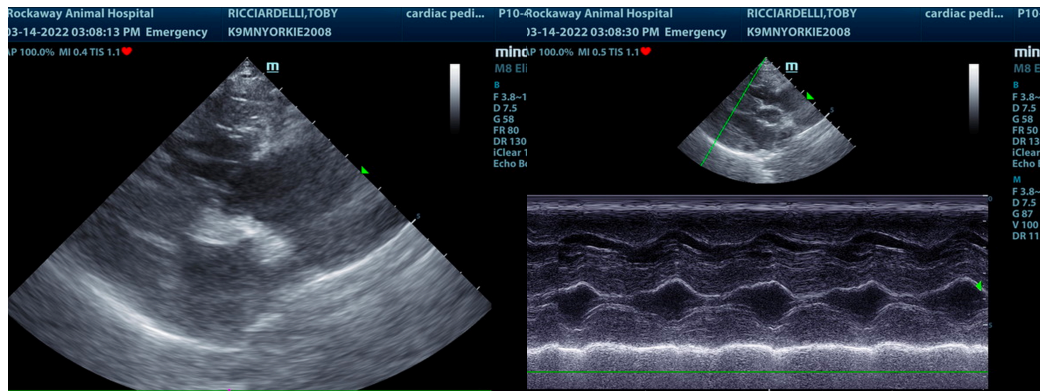
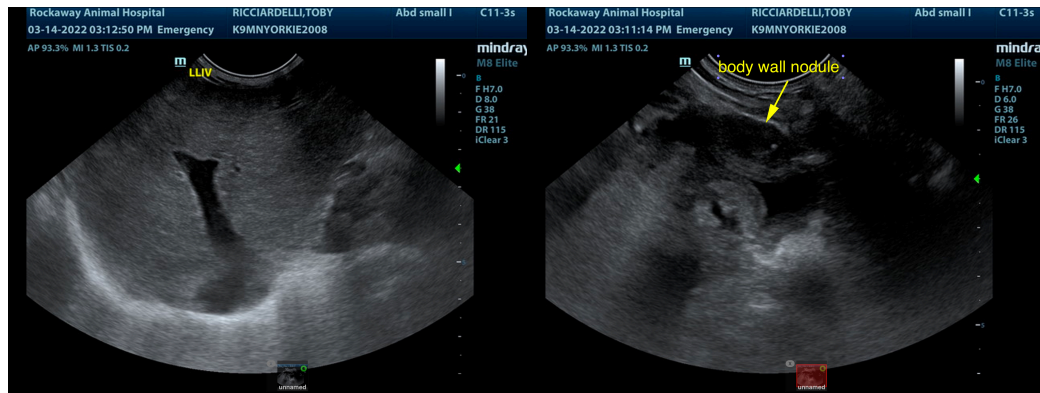
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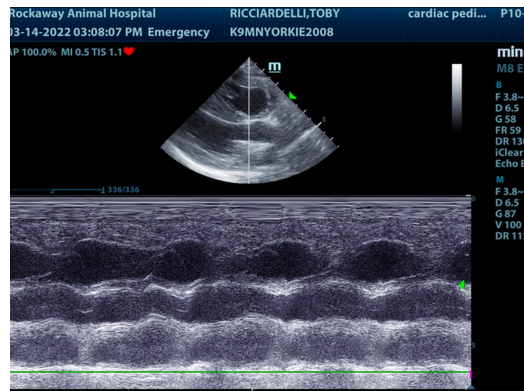
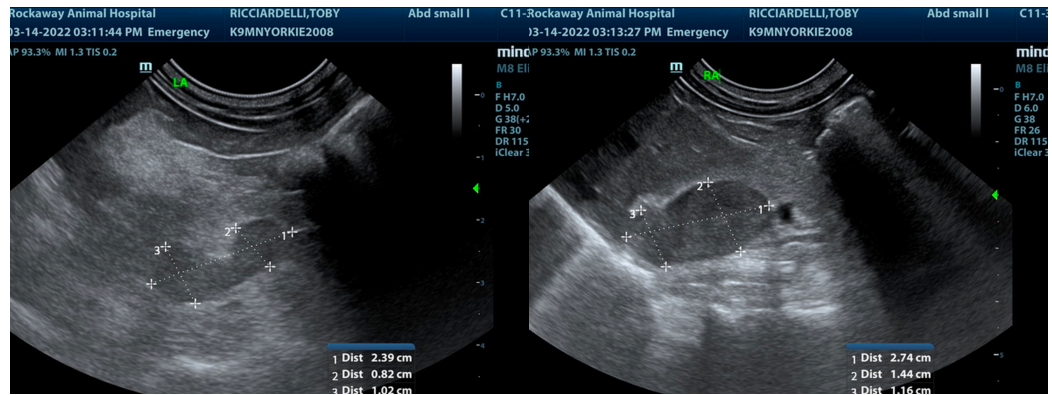
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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