



PATIENT

Ginger Douglas

PRESENTING CLINICAL SIGNS

coughing, after drinking, got into garbage 2 days ago and vomited

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

BREED

Chi X

SEX

Spayed Female

AGE

8 Years

WEIGHT

13.6 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	5.2		1.0	1.2	38	70	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	143	1.27	0.67		3.28	2.86	

Cardiac Presentation

The left atrium presented minor enlargement in the LA Max position primarily, not likely large enough to cause cardiac cough. The cranial and caudal mitral valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. Mild eccentric MR jet noted. The left ventricle presented thicknesses with linear contour and was not dilated nor restricted. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. Contractility of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. 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 or chamber overload. Tricuspid valvular assessment demonstrated adequate linear morphology. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible pericardial or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial mediastinum and pericardial regions were free of masses in the visible window.

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 revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present.

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

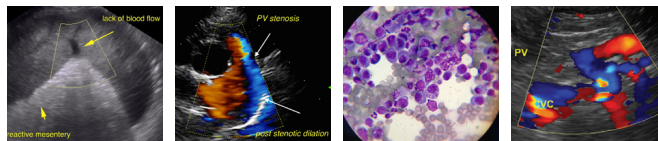
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DATE

3/28/22



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The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.0 cm. The left kidney measured 4.69 cm.

Adrenal Glands

SPECIES

Canine

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 1.85 cm x 0.55 cm at the caudal pole and 0.61 cm at the cranial pole. The right adrenal gland measured 1.54 cm x 0.46 cm at the caudal pole and 0.63 cm at the cranial pole.

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Spleen

SEX

Spayed Female

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.

AGE

8 Years

Liver

WEIGHT

13.6 Pounds

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.

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

IMAGING PERFORMED BY

Jenn

Pancreas

HOSPITAL NAME

Rockaway AH

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

- Early Stage B2 valvular disease
- Unremarkable abdomen

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Cardiac cough unlikely at this point. Primary respiratory likely playing a primary role. However, if vertebral heart score is excessive, then Pimobendan could be considered at 0.3 mg/kg BID. Primary respiratory protocol warranted. Treatment for early B2 valvular disease would be valid. Supportive care for GI upset should prove effective.

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The heart has some volume overload and is working to compensate for the valvular insufficiency. Target respiratory rate is < 20 resp/minute after therapy. After initiating therapy, I recommend recheck on the clinical exam, BUN, Creatinine, USG, Chest radiographs & Blood pressure in 5-7 days. Recheck echo in 1



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month. Earlier if clinical decompensation is occurring. I do not recommend anesthesia at this time until stabilization has occurred on the recommended medications. Repeat preanesthetic echo is ideal if anesthesia is eventually necessary. There is moderate anesthetic risk for this patient. I recommend cardiac treatment prior to sedation unless only light opioids are utilized which would have minimal effect on heart function.

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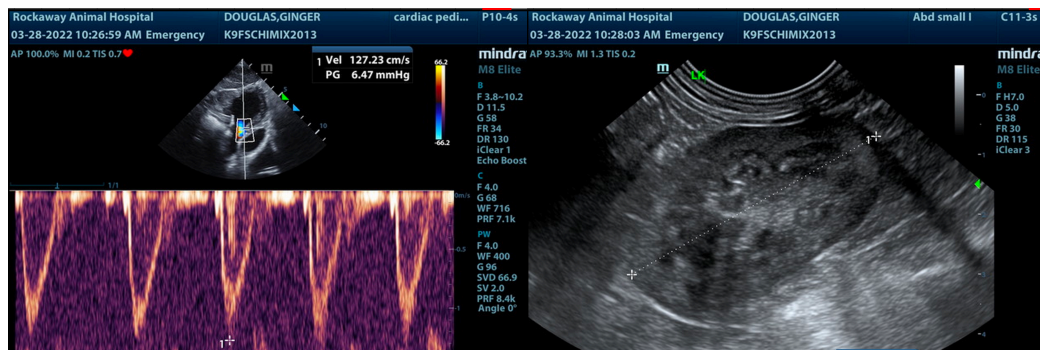
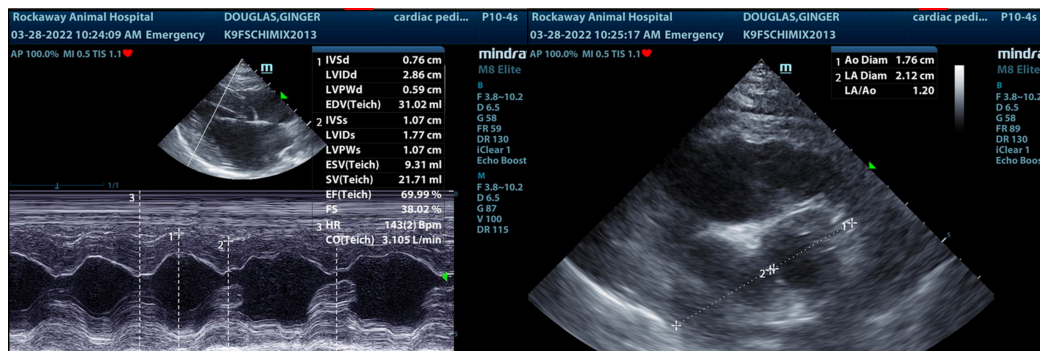
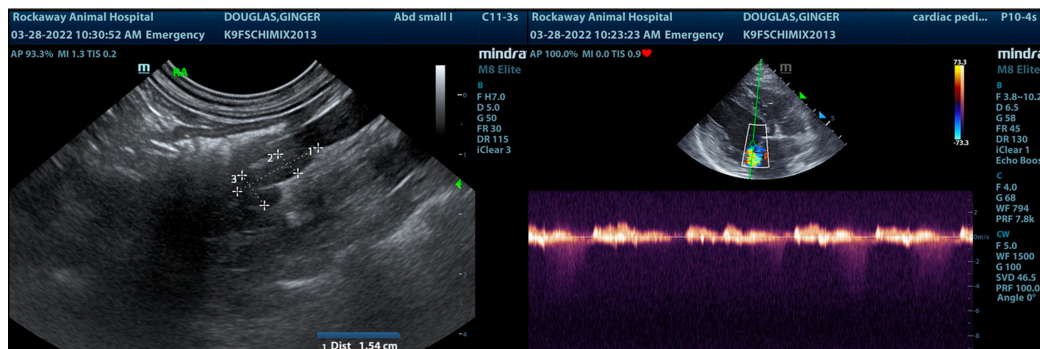
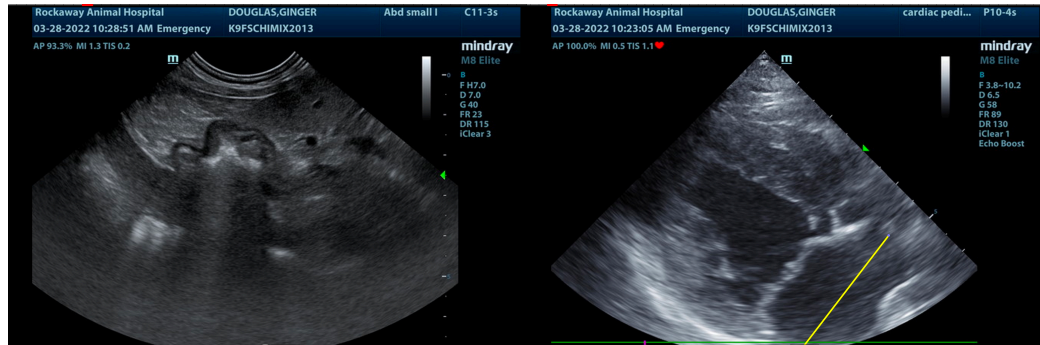
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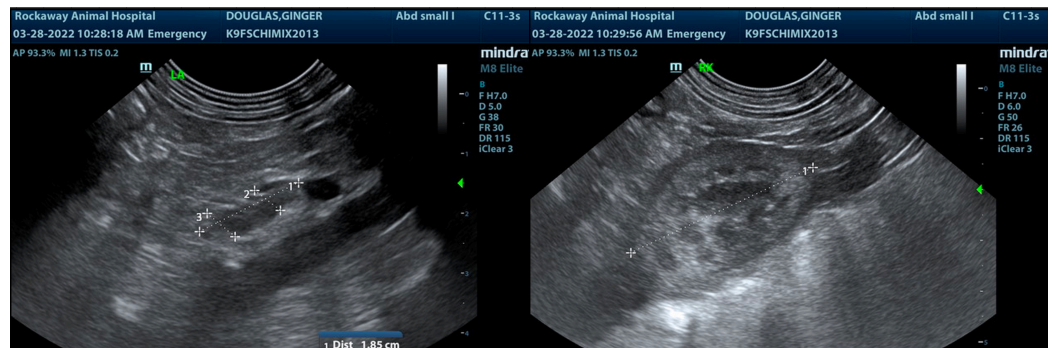
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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