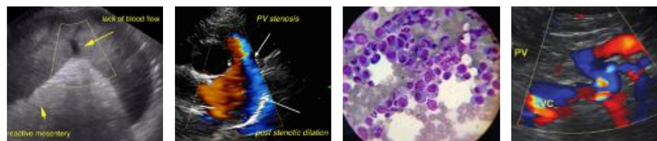
SonoPath
Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Napoleon Collier

SPECIES

Canine

BREED

Chi Mix

SEX

Male

AGE

14 Pounds

WEIGHT

18 Pounds

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

Dr. Bednar

INVOICE

17942

DATE

11/3/22

PRESENTING CLINICAL SIGNS

History: crackles, muffled heart sounds intensified cough elevated trachea at base of heart , effusion
Current meds Lasix Vetmedin Metro Denamarin
Abnormal PE/Chem/CBC/UA Results: Elevated BUN 71 Phos 7.4 ALT 666 ALP 288

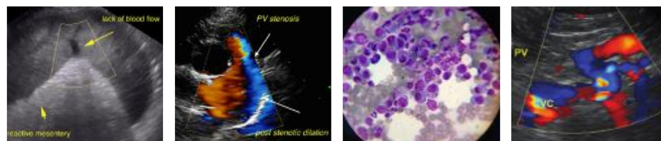
ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	<1.3	28-40	40-100	<0.6
PATIENT	--	--	1.2	1.2	38.2	70	0.15
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				
PATIENT	96	1.1	0.7	--	2.3	2.3	--

Cardiac Presentation

The **echocardiogram** presented a mildly prominent right ventricle compared to the left ventricle without overt evidence of right ventricular hypertrophy without significant tricuspid regurgitation, evidence of pulmonic stenotic disease and with concurrent mildly prominent right atrial size. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** normal to possible mildly prominent size compared to the aorta 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 **mitral valve** exhibited overtly normal linear structure with mild eccentric insufficiency on color doppler yet without evidence of left atrial enlargement. 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. No evidence of pericardial or pulmonary masses in the visible window.

A brief sonographic assessment of the cranial abdomen revealed no evidence of hepatic congestive criteria or cranial abdominal ascites.



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ULTRASONOGRAPHIC FINDINGS

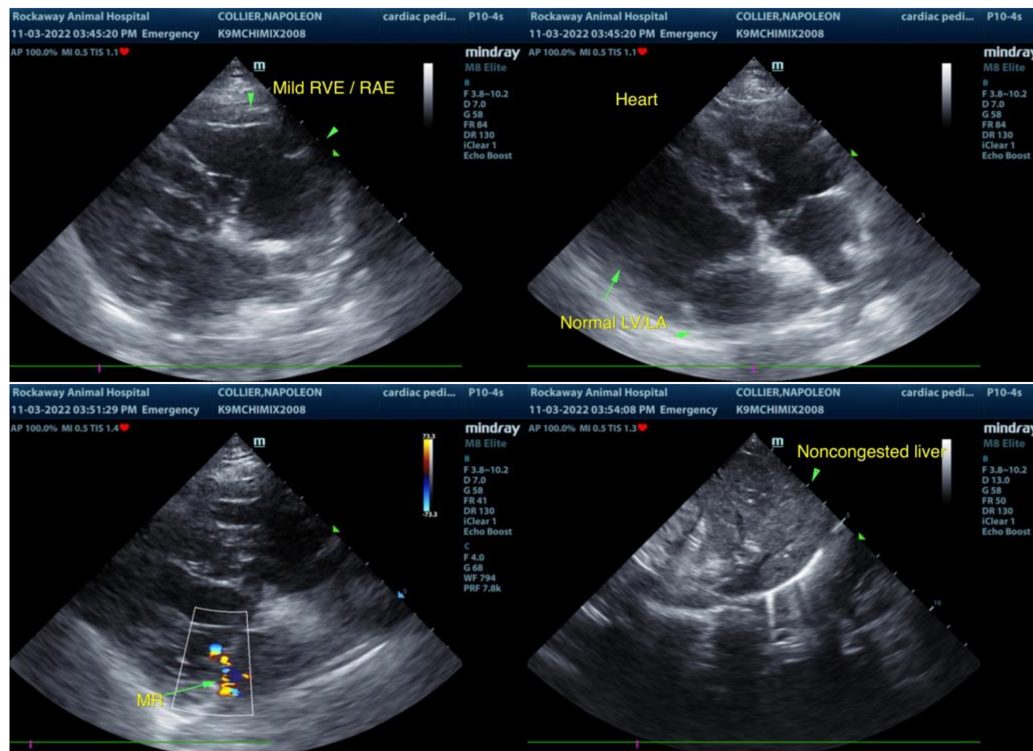
- Mildly prominent RA/RV without overt evidence of clinical pulmonary hypertension- suggestive of cor pulmonale
- Compensated minor mitral valve insufficiency, normal left atrium size

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall compensated cardiac presentation without evidence of significant structural or functional cardiomyopathy, including no evidence of LV systolic dysfunction, left heart volume overload arrhythmogenic disease, clinical pulmonary hypertension or obvious evidence of cardiac or pericardial masses/neoplastic criteria. Some degree of elevated pulmonary pressure may be present given the suspected mild cor pulmonale.

Given this presentation, the clinical signs in this patient, including oscillatory pulmonary abnormalities, intensified cough, and reported effusion appear to be noncardiogenic in origin with primary concern for lower airway disease, i.e., pneumonitis, acute respiratory distress syndrome, inflammatory/infectious disease, noncardiogenic neoplasia or other.

No indication for myocardial supportive medications, such as Vetmedin, although Lasix trial with continued monitoring and as needed respiratory support would be appropriate. Recheck echocardiogram could be considered in 10-14 days or sooner if strong clinical concern for possible emerging CHF or lack of response to diuretic therapy and respiratory support.



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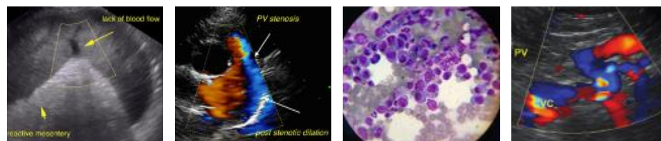

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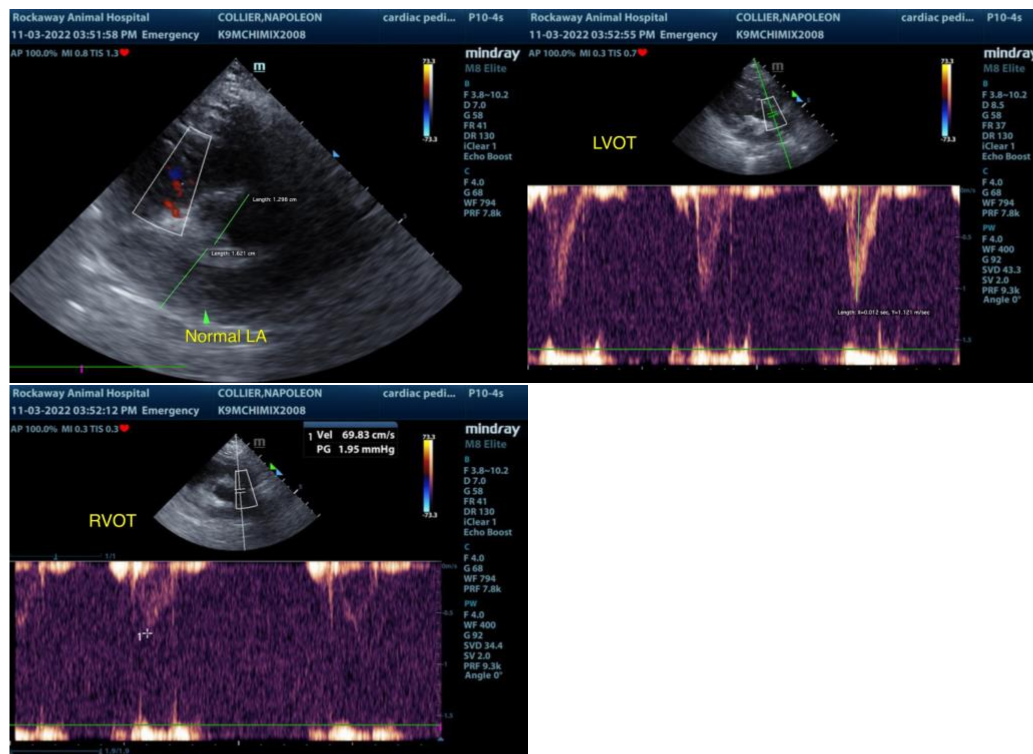

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com