



PATIENT

Frankie Baldowski

SPECIES

Canine

BREED

English Bulldog

SEX

Neutered Male

AGE

9

WEIGHT

43.4 Pounds

PRESENTING CLINICAL SIGNS

History: Acute onset pneumonia and suspected pulmonary hypertension - Feb 2023 Treated with oxygen, Enrofloxacin, Amoxicillin/Clavulonate and started Sildenafil Furosemide added 3/1 due to lack of improvement then tapered and discontinued after 5 days. Currently on Sildenafil 20mg (1 mg/kg) TID Sleeping respiratory rate - varies between 10-18 Coughing daily - numerous times daily, soft wheezy cough Exercise tolerance -normal, has been steadily improving over last few months Has regained the 3 lb lost after February Eating/Drinking normally.

Abnormal PE/Chem/CBC/UA Results: Thoracic rads : 2/27/23 - The cardiac silhouette is moderately increased (VHS cannot be determined due to several anatomical shortcomings) with a predominant right ventricular enlarged. The pulmonary arteries are increased. There is a moderate diffuse increase in bronchial pattern. An interstitial pattern is also noted in the perihilar region. The trachea is elevated. There is evidence of mild pleural effusion noted. The mediastinum appears to be thickened. Abdominal detail is normal. Echo 2/27/23 Though a murmur was not heard, it may be present and caused by tricuspid valve insufficiency secondary to pulmonary hypertension. The right ventricular enlargement could be caused by a VSD, if present. Pneumonia cannot be ruled out and could be the underlying cause to the acute respiratory signs. Echo 4/3 /23 - RA and RV dilated, mild septal flattening, pulmonary artery dilation and moderate TR - unable to rule out VSD Thoracic rads 4/3/23 - cardiomegaly (VHS cannot be performed due to skeletal abnormalities), enlarged pulmonary arteries, bronchial pattern and an peri-hilar interstitial pattern. Thickened mediastinum and pleural thickening/mild pleural effusion Blood Pressure = normal today CBC - last done 2/27/23 - mild leukocytosis due to neutrophilia CHEM - last done 4/3/23 - mild elevation ALP.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Gudrun Gunther

HOSPITAL NAME

New Frontier AMC

REFERRING VET

Gudrun Gunther

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	--	3.0	1.1	1.3	46	79	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				
PATIENT	--	--	1.00	--	3.2	2.7	--

INVOICE

23675

DATE

7/28/23

Cardiac Presentation

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, and normal **right atrial** size. **Tricuspid** insufficiency was noted. Right atrial to left atrial ratio was 1.5:1.0. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The



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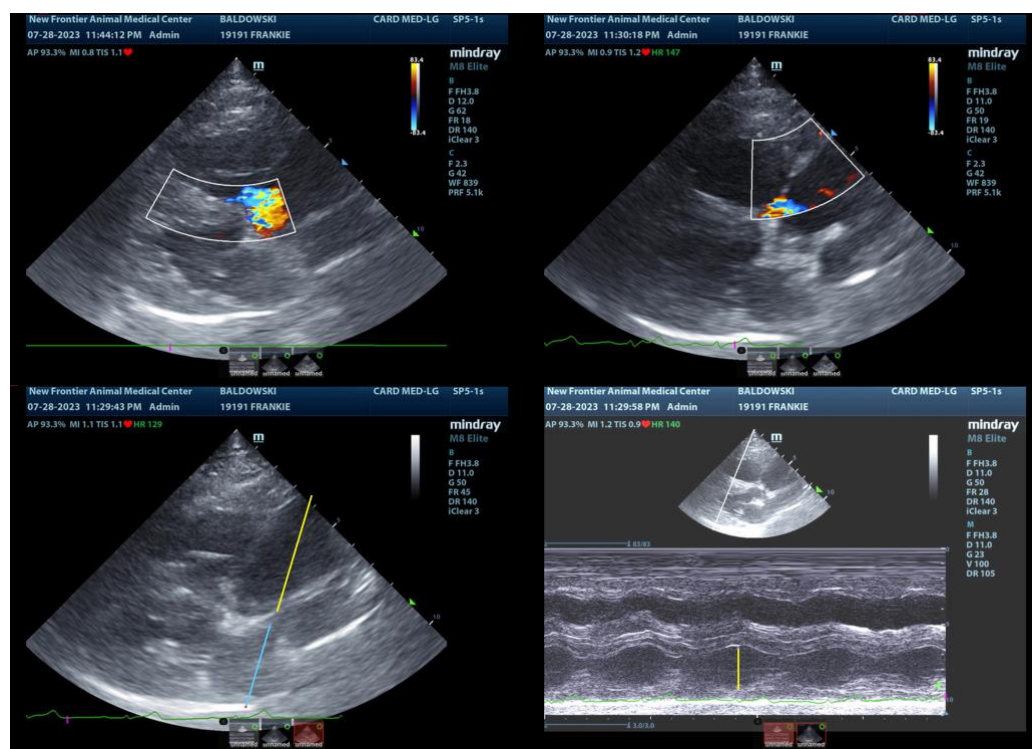
pulmonary artery was uniformly prominent with mildly depressed pulmonic velocity measured on PW Doppler. No overt heartworms were noted in the main or visible deep pulmonary arteries. Yet, theoretically heartworms could be present in the deep pulmonary vasculature out of visible sonographic range. More 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 **mitral valve** was not significantly insufficient and 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. RA max: 4.4.

ULTRASONOGRAPHIC FINDINGS

- Tricuspid insufficiency
- Mild pulmonary hypertension
- Right sided cardiac enlargement

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cough is noncardiogenic in this patient. Primary respiratory protocol is warranted based on radiographs and/or CT evaluation. If hepatic veins are dilated in this patient, then adjustment of sildenafil and possible addition of spironolactone could be considered. Treatment for primary respiratory disease is indicated. Blood pressure measurements are recommended.





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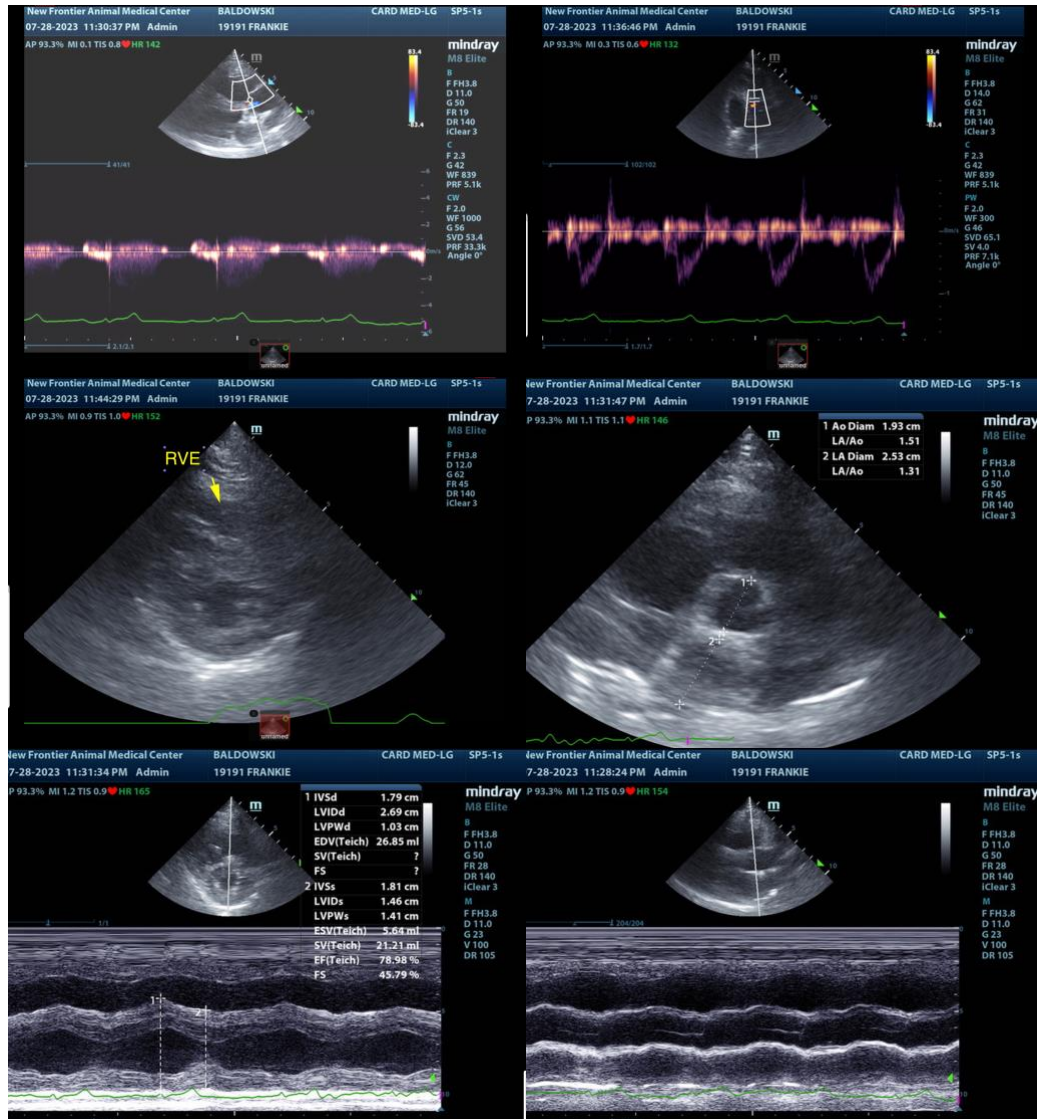
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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