



PATIENT

Baloo Franco

SPECIES

Canine

BREED

Yorkie

SEX

Male

AGE

17

WEIGHT

16.2

INTERPRETED BY

Eric Lindquist, DMV,
DABVP(CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

Dr. Mays

INVOICE

35016

DATE

12/22/25

PRESENTING CLINICAL SIGNS

History: Increased coughing, extended abd lethargy another vet diagnosed heart dz Current meds Enalapril 1/2 SID Pimobendan 10 mg 1/4 SID Grade 5/6 L systolic murmur wheezes, crackles Drained 1,050 of fluid from stomach.

Abnormal PE/Chem/CBC/UA Results: WBC 17.36 BUN 29

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	6.0	4.0	1.5	--	50	--	0.2
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	LAD LA MAX 4 Chamber	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	--	--	.60	16.2	3.4	3.0	--

Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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** insufficiency was noted. 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.



PATIENT

The cranial **mediastinum and pericardial regions** were free of masses in the visible window. Ascites was present in the abdomen. Hepatic vein dilation was noted.

Baloo Franco

SPECIES

Canine

BREED

Yorkie

SEX

Male

AGE

17

WEIGHT

16.2

INTERPRETED BY

Eric Lindquist, DMV,
DABVP(CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

Dr. Mays

INVOICE

35016

DATE

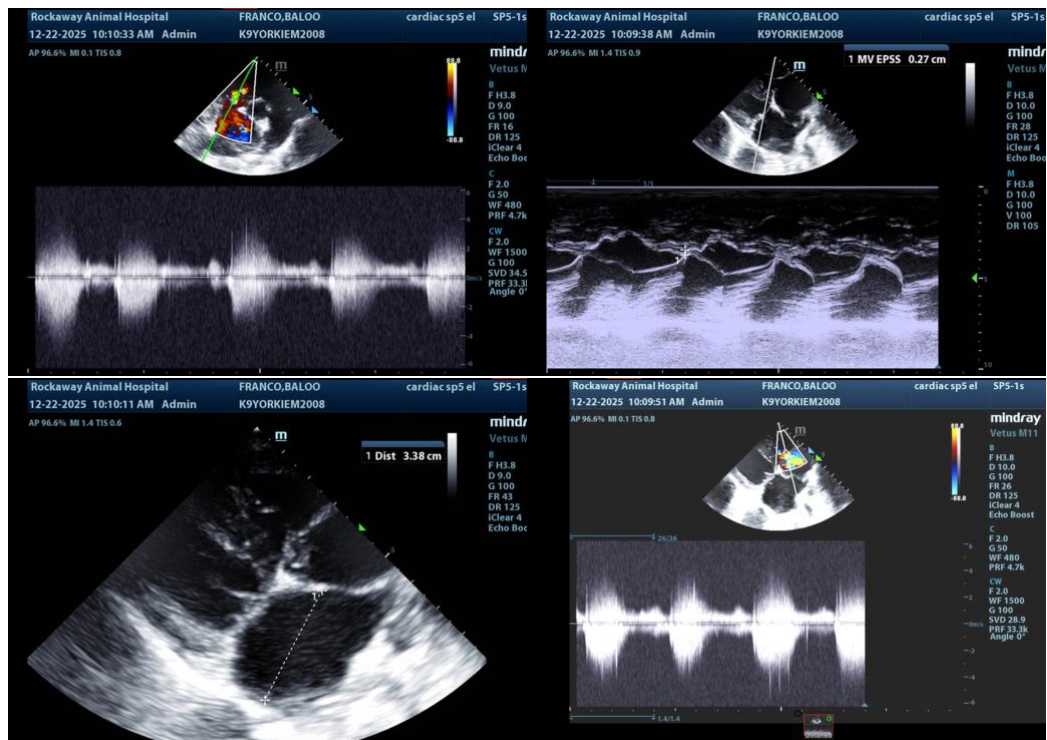
12/22/25

ULTRASONOGRAPHIC FINDINGS

- Mitral and tricuspid insufficiency with moderate pulmonary hypertension
- Mild left atrial enlargement
- Ascites in the abdomen, as well as hepatic vein dilation, consistent with right sided failure.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cough is most likely primary respiratory in this patient, but both valvular disease and mild left sided volume overload, as well as right sided volume overload owing to pulmonary hypertension are present. This is likely valvular disease with right sided failure and likely concurrent pulmonary disease. Recommend adding to the current protocol sildenafil at a dose of 1.0 mg/kg BID, ace inhibitor at a dose of 0.5 mg/kg SID, progressing to BID, and spironolactone at a dose of 1-2 mg/kg BID. Medical management for primary respiratory disease is also indicated based on radiographic findings. Recheck echo is recommended in one month. After two weeks, increase of the sildenafil to 1.5 mg/kg BID would be indicated.





PATIENT

Baloo Franco

SPECIES

Canine

BREED

Yorkie

SEX

Male

AGE

17

WEIGHT

16.2

INTERPRETED BY

Eric Lindquist, DMV,
DABVP(CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

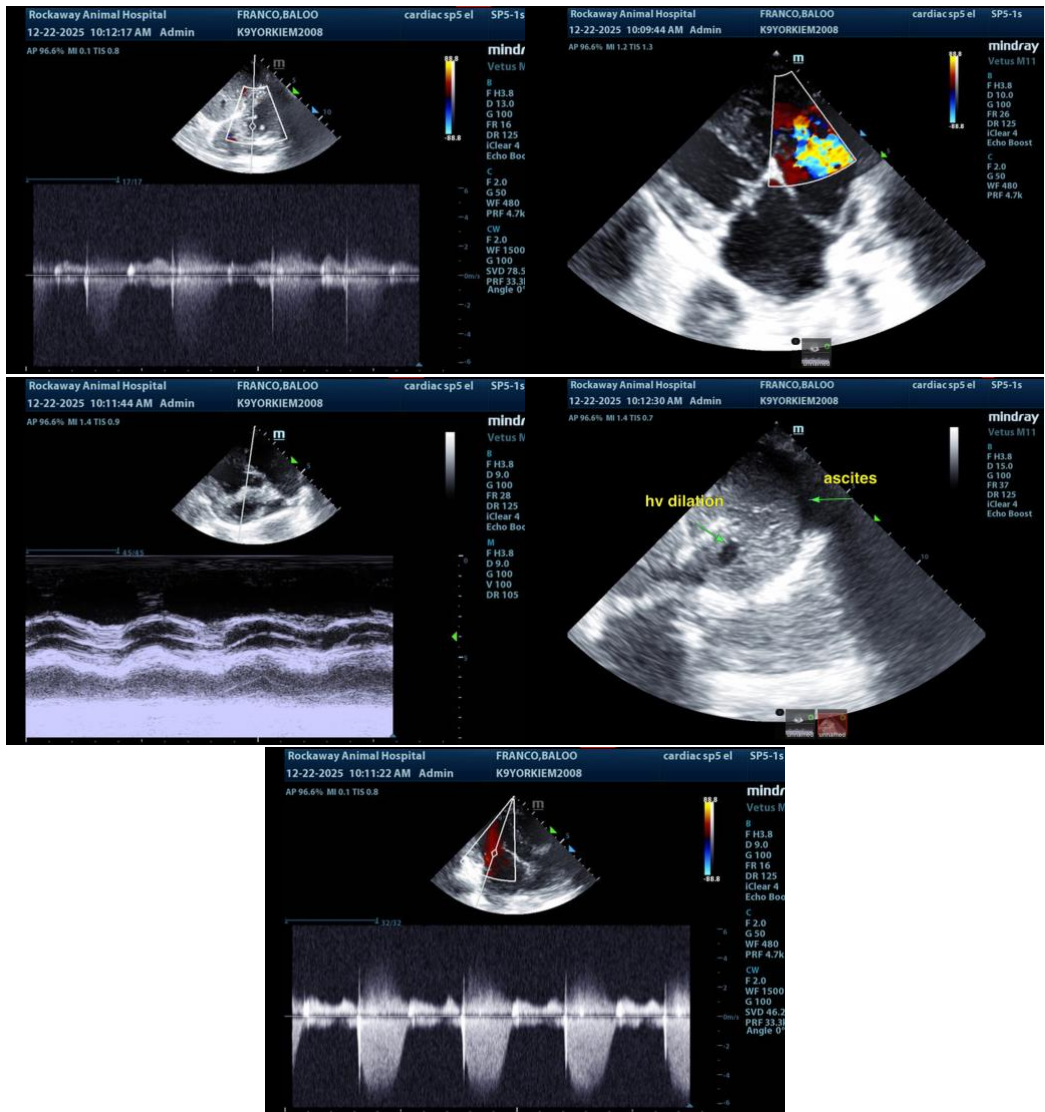
Dr. Mays

INVOICE

35016

DATE

12/22/25



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, Owner, Founder -- SonoPath.com
info@SonoPath.com



PATIENT

Baloo Franco

SPECIES

Canine

BREED

Yorkie

SEX

Male

AGE

17

WEIGHT

16.2

INTERPRETED BY

Eric Lindquist, DMV,
DABVP(CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

Dr. Mays

INVOICE

35016

DATE

12/22/25

Right Heart Disease-General Considerations

<http://www.sonopath.com/RightHeartDisease>

Description: Right heart disease is often an incidental finding, which can be either cardiogenic or secondary to respiratory or systemic disease. The coughing patient with right heart disease may present with primary respiratory disease (i.e., bronchial collapse, collapsing trachea, pneumonitis) and suffer from secondary pulmonary hypertension (PHT). Concurrent mitral valve disease and chronic left-sided congestive heart failure (CHF) might also lead to PHT. The dyspeic patient with right heart enlargement might have pulmonary hypertension due to airway disease, chronic CHF, parenchymal lung disease (e.g. pulmonic fibrosis), or a cardiac shunt with secondary PHT and shunt reversal.

Primary cardiac causes of right heart enlargement include: tricuspid dysplasia/degeneration; pulmonic stenosis; pulmonic insufficiency; atrial or septal defects; patent ductus arteriosus; right auricular masses; and pericardial peritoneal diaphragmatic hernias. The second most common cause of right-sided enlargement is secondary PHT, which results in high-velocity tricuspid insufficiency (TR vel.>2.8 m/sec) and pulmonic insufficiency due to diseases that cause increased pulmonary vascular resistance or increased pulmonary wedge pressures. The most common cause of secondary PHT is left-sided heart failure (LHF), which presents radiographically as a more globoid-shaped heart with marked left atrial and ventricular enlargement. There are also signs of left-sided CHF as opposed to a simple prominent cranial waist or reverse D radiographic presentation.

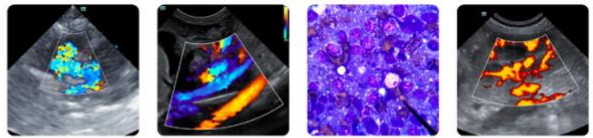
Secondary, non-cardiac causes of PHT include: acute or chronic respiratory disease; pulmonary thromboembolic disease; thoracic neoplasia; excessive thoracic fat deposition (e.g. Pickwickian syndrome, which leads to chronic hypoxia); brachycephalic syndrome; high altitude disease; heartworm disease; and primary vascular disease.

Clinical Signs: The most common presenting symptoms of right heart disease are collapse, syncope, intermittent or constant acute respiratory distress (e.g. thromboembolic disease), and exercise intolerance.

Diagnostics: Physical examination may reveal a right-sided apical heart murmur and/or a cranial left heart murmur, a split S2, jugular distension, ascites, and signs consistent with respiratory disease (i.e., cough, wheeze, tracheal collapse, tachypnea). Radiographic findings may reveal an enlarged right atrium, right ventricle, and/or primary/secondary branches of the pulmonary artery. In cases of PHT, an enlarged or engorged pulmonary artery is often present. Tortuous arteries or those that suddenly terminate can indicate the presence of thromboembolic disease or heartworms. An interstitial pattern might indicate the presence of pulmonary parasitism or primary interstitial lung disease. Pulmonic stenosis is suspected if the pulmonic segment is enlarged. ECG findings include tall P and S waves with a right axis shift.

Treatment: Please refer to the chapter "Pulmonary Hypertension" for therapeutic recommendations.

References:



PATIENT

Baloo Franco

Oyama MA, Rush JE, Rozanski EA, et al. Assessment of serum N-terminal pro-B-type natriuretic peptide concentration for differentiation of congestive heart failure from primary respiratory tract disease as the cause of respiratory signs in dogs. *J Am Vet Med Assoc* 2009;235:1319-25.

SPECIES

Canine

Rozanski E. Interstitial lung disease in small animals. Proceedings from American College of Veterinary Internal Medicine Forum, Denver, CO, June 15-18, 2011.

BREED

Yorkie

Zoia A, Augusto M, Drigo M, Caldin M. Evaluation of hemostatic and fibrinolytic markers in dogs with ascites attributable to right-sided congestive heart failure. *J Am Vet Med Assoc* 2012;241:1336-43.

SEX

Male

AGE

17

WEIGHT

16.2

INTERPRETED BY

Eric Lindquist, DMV,
DABVP(CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway AH

REFERRING VET

Dr. Mays

INVOICE

35016

DATE

12/22/25