



## PATIENT

Coco Rivera

## SPECIES

Canine

## BREED

Mixed

## SEX

MI

## AGE

8 y

## WEIGHT

21.6 lb

## INTERPRETED BY

Keith Blass, DVM, MS,  
DACVIM (Cardiology)

## IMAGING PERFORMED BY

Gabriel Ferrer, DVM

## HOSPITAL NAME

Pulse Pet Ultrasound  
Services

## REFERRING VET

Dr. Gerena

## INVOICE

## DATE

5/15/26

## PRESENTING CLINICAL SIGNS

History of coughing and abdominal distension. Radiographs consistent with pericardial and peritoneal effusion. Pericardio- and abdominocentesis performed.

## ECHOCARDIOGRAPHIC FINDINGS

2D, M-mode, and Doppler study.

There is mild left atrial dilation. The mitral valve leaflets are mildly thickened, and there is Doppler evidence of mitral regurgitation present. There is moderate left ventricular dilation. Left ventricular systolic function is moderately depressed. The aorta and aortic valve appear normal, though mild aortic insufficiency is present. Right atrial and right ventricular dimensions are normal. The tricuspid valve leaflets are mildly thickened, and there is Doppler evidence of tricuspid regurgitation present. The pulmonary artery and pulmonic valve are normal. No shunting lesions are visualized. No heartworms are visualized. Scant pericardial effusion is present. No cardiac masses are seen.

ECG during echo: Sinus rhythm with periods of an accelerated idioventricular rhythm (AIVR)

LA - 33.4 mm  
LVIDd - 38.4 mm  
LVIDs - 31.4 mm  
FS - 18.2%  
RA - 19.7 mm  
LVOT - 0.73 m/s  
RVOT - 0.66 m/s

## ASSESSMENT/RECOMMENDATIONS

Degenerative mitral and tricuspid valve disease  
Left ventricular systolic dysfunction  
Accelerated idioventricular rhythm (AIVR)

This examination demonstrates regurgitation of blood across Coco's mitral and tricuspid valves resulting from degenerative valve disease, as well as moderate depression of his left ventricular systolic function. As small breed dogs typically do not develop primary dilated cardiomyopathy (DCM), consideration should be given to a diet-associated cardiomyopathy and myocarditis as possible causes of Coco's myocardial dysfunction. Secondary to these abnormalities, Coco mild dilation of his left atrium and moderate dilation of his left ventricle. Given this, Coco is at mildly increased risk for the development of left-sided congestive heart failure, therefore, careful monitoring of his respiratory rate/effort is recommended. While other causes of pericardial effusion, such as neoplasia, idiopathic effusion, left atrial splitting, coagulopathy, and hypoproteinemia, cannot be ruled out, dogs with systolic dysfunction are at risk for the development of right-sided congestive heart failure, even in the absence of right atrial dilation, therefore, it's possible that this could be the cause of Coco's effusion. As for Coco's peritoneal effusion, it could be secondary to his myocardial dysfunction, or, if his pericardial effusion led to cardiac tamponade, the tamponade could have been the cause.

Coco's ECG demonstrates the presence of periods of AIVR. This occurs when a subsidiary pacemaker in the ventricles discharges at a faster than normal rate and competes with the sinus node for capture of the heartbeat. While it can develop secondary to cardiac dysfunction, it often develops secondary to a systemic abnormality. If that is the case, it is often transient. If AIVR persists, it typically only needs to be treated if its rate approaches 180 bpm or higher.



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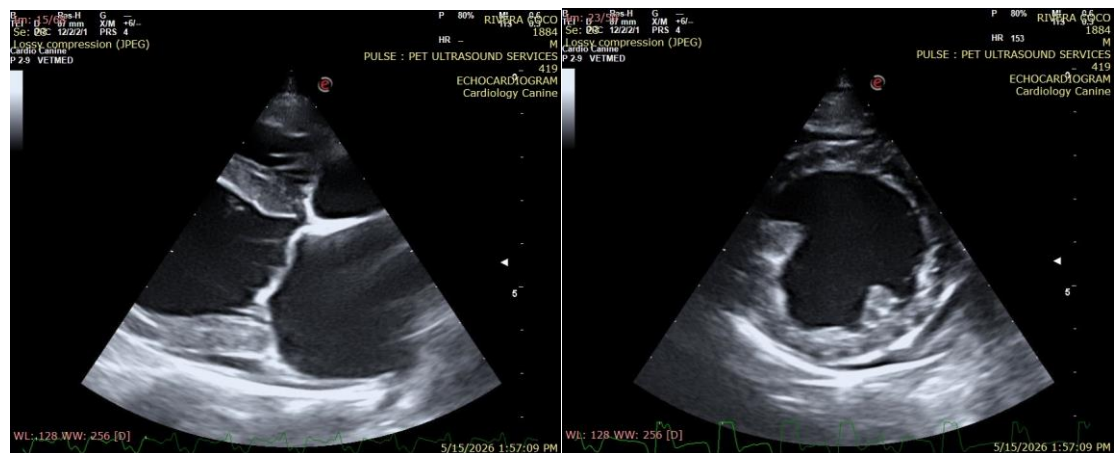
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Evaluation of Coco's diet is recommended, and a diet change would be warranted if he is receiving one that contains peas, lentils, and/or legumes in the top 10 ingredients. If Coco is receiving an atypical diet, supplementation with taurine (1000 mg BID) may also be warranted.

Recommended therapy to help support Coco's myocardial function includes pimobendan (2.5 mg BID), enalapril (5 mg BID), and spironolactone (12.5 mg BID). Given the possibility of Coco's effusions being due to the development of right-sided CHF and the fact that he is not currently experiencing cardiac tamponade, a trial with furosemide (20 mg BID) is recommended to determine whether this prevents the reaccumulation of effusion. No therapy is recommended for Coco's AIVR if his heart rate is below 170 bpm.

A recheck ECG is recommended in 48 hours. A renal/electrolyte profile and FAST scan are recommended in 1 week.



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.

Keith Blass, DVM, MS, DACVIM (Cardiology) [info@SonoPath.com](mailto:info@SonoPath.com)