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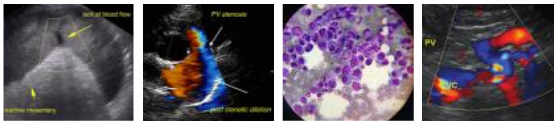


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Cookie Griffith

SPECIES
Canine

BREED
Dachshund

SEX
FS

AGE
15

WEIGHT
7.6kg

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

IMAGING PERFORMED BY
Jenna Walsh CVT

HOSPITAL NAME
Wilvet of Salem

REFERRING VET
Dr. Wepprich

INVOICE
11713ag

DATE
09/26/2022

PRESENTING CLINICAL SIGNS

P began coughing 4 days ago, seems to worsen in certain positions. Exam: heart murmur grade 4/6, severe periodontal disease, coughing with increased abdominal effort, lenticular sclerosis, tense abdomen, Heart Rate and Respiratory Rates HR 110 RR42 (in oxygen) Blood Pressure Measurments 80/62/66 Current Medications Torb 0.2mg/kg 9/24 @ 7pm; Lasix 2mg/kg q4-6h PRN (given 9/25 @ 6pm); vetmedin 2.5mg po q12h; lasix 12.5mg po q12h Radiographic Findings Rads: Left sided heart failure, IVDD, hepatomegaly (benign/metabolic vs. neoplastic/infectious) Primary Question/Differential to Be Answered in This Exam CHF

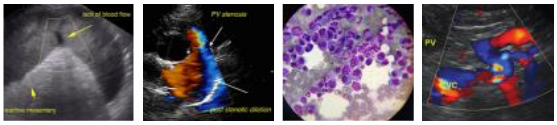
Abnormal PE/Chem/CBC/UA Results: ABNORMAL Labratory Findings BW: BUN 13 Cr 0.6 Lactate 3.26

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	5.0	<2		1.4	50	82.9	0.25
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	101	2.6	1.1		3.3	2.7	

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 with normal echogenicity. The cranial and caudal mitral valve leaflets presented vegetative thickening consistent with endocardiosis. No evidence of valvular prolapse. Doppler indicated measurable eccentric 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. Focal mild aortic leaflet hyperechoic thickening was present. Mild elevated LV outflow velocity with aortic insufficiency measuring 3.0 m/s was present on Doppler. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Tricuspid valvular assessment demonstrated mild thickening with minor TR on Doppler. 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). Minor



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pulmonic insufficiency present on Doppler. 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.

Brief sonographic assessment of the liver revealed no obvious evidence of hepatic congestion criteria.

Transdiaphragmatic view revealed comet tail lung pattern, which is echogenic sound wave interface with microconsolidations within the caudal lung field. The lung field should not be visualized by sonogram unless pathology is present. Chest radiographs are recommended to rule out alveolar/lung disease such as neoplasia, thromboembolic disease, chronic inflammatory disease with microconsolidation.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM mild B2)
- Normal RA/RV
- Minor TR-estimated pulmonary pressure gradient not consistent with overt clinical pulmonary hypertension
- Elevated LV outflow velocity with concurrent aortic insufficiency, subjective minor hyperechoic aortic valve leaflet thickening
- Pulmonic insufficiency
- Non-specific transdiaphragmatic comet tail artifact

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although the included radiographs suggest significant cardiomegaly the sonographic presentation was not consistent with volume overload with only minor LA enlargement present. No evidence of RA/RV enlargement as with cor pulmonale or evidence of clinical pulmonary hypertension was present. Potential for multifactorial component to the respiratory abnormalities including primary or concurrent lower airway component i.e. inflammatory/infectious disease, pneumonitis, acute respiratory distress syndrome, thromboembolic disease or other could be possible.
A blood culture may be considered if clinical concern for endocarditis i.e. fever etc. Continued cardio supportive medications including lowest effective dose of diuretic therapy with as needed respiratory support including as needed O2 and continued assessment of clinical response would be reasonable. Full abdominal ultrasound may be considered to assess for pathology which may predispose to concurrent respiratory abnormalities. Recheck echocardiogram recommended in 6-8 weeks, sooner if persistent clinical signs.

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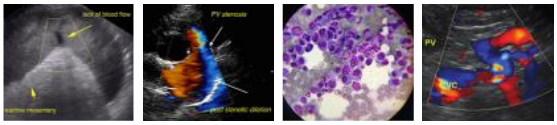

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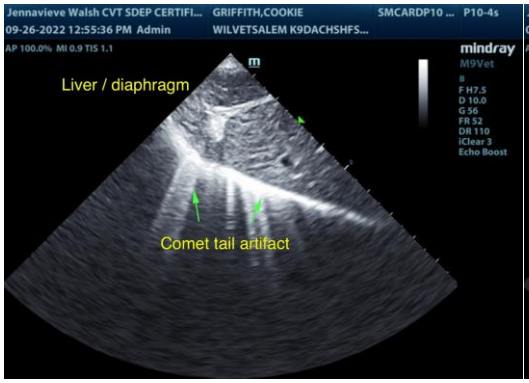

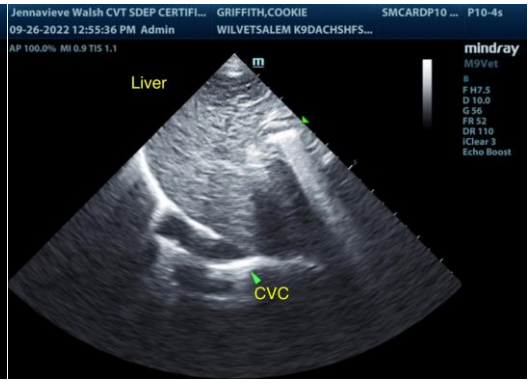

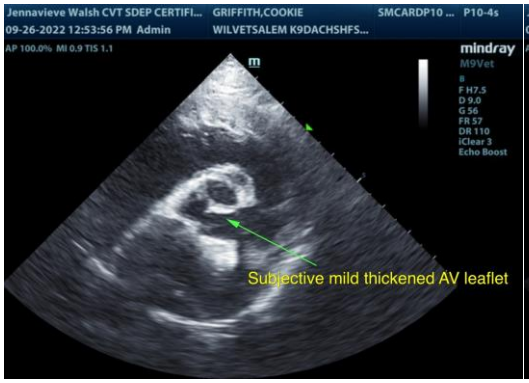

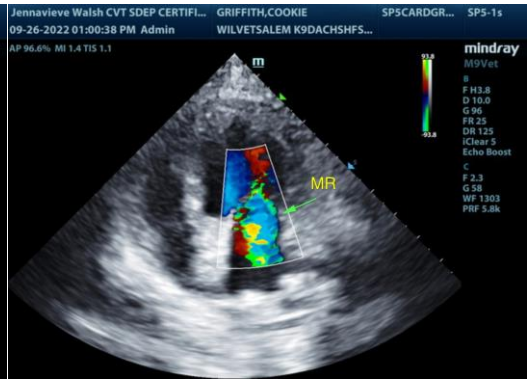

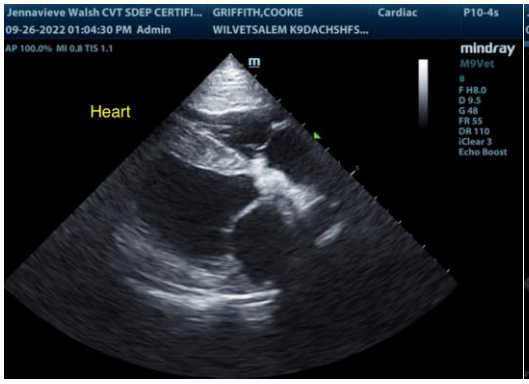

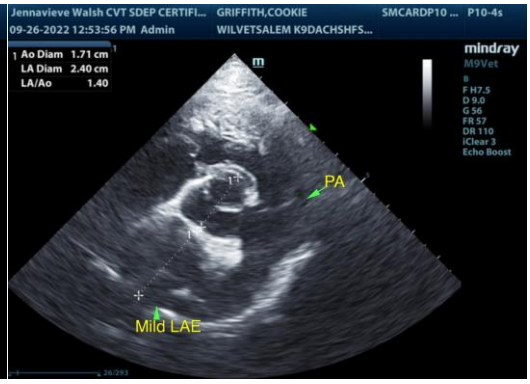

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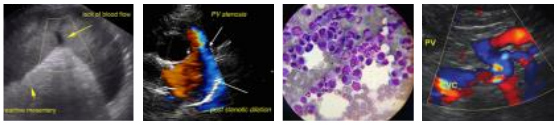

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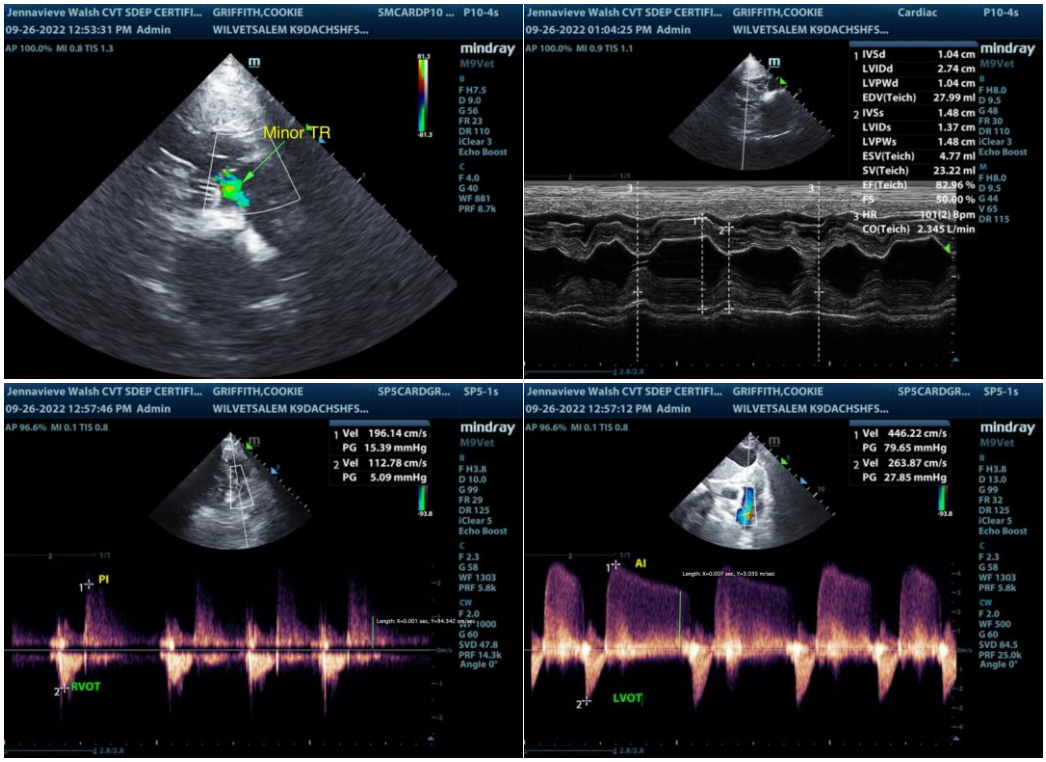

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com