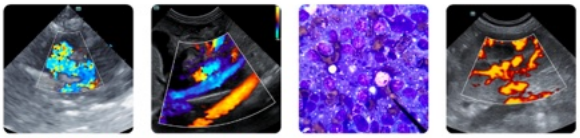


SonoPath www.animalsoundsnw.com info@animalsoundsnw.com 541.357.9423

PATIENT

Keiko Stahl

SPECIES

Canine

BREED

Pitbull Cross

SEX

Neutered male

AGE

10 years

WEIGHT

82.5 lbs

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Sara Hansen

HOSPITAL NAME

Four Corners VC

REFERRING VET

Dr. Omoto

INVOICE

75092

DATE

5/1/26

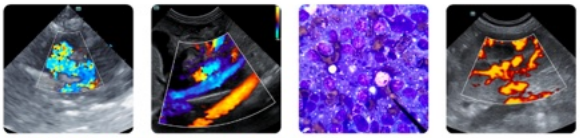
PRESENTING CLINICAL SIGNS

-Presented for decreased mobility, short episodes (2 min max.) of getting wobbly and falling over when excited that are increasing in frequency (1 episode then a couple a month later), heavy breathing, staring off into space
-Novel, soft 1-2/6 R apical systolic murmur
-Bilateral mildly enlarged popliteal LN (~1.5 cm)
-BCS 6/9
-Generalized pruritus, dry skin/coat
-AS ulcerations and purulent discharge
-Lenticular sclerosis OU
-Tartar 3/4, gingivitis 1/3
CBC - MCV 61.5 (L), MCH 20.9 (L), RDW 22.4 (HIGH), RETIC HGB 21.9 (L), MPV 14 (H)
Chem 18/Lytes - Glob 5.1 (H)
HR/RR/BP: 140/30/pending
Grade I-II/VI apical systolic murmur.
Radiographic Findings -VHS ~11.6, Mild bronchial pattern, Concern for mild dorsal deviation of trachea and mild rounding of cardiac silhouette in region of L atrium

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The left atrium is normal in dimension. The left ventricle is normal in dimension with normal systolic function. The right atrium and ventricle are subjectively enlarged with adequate systolic function and mild right ventricular hypertrophy. The anterior and posterior mitral valve leaflets presented normal linear structure, extension in systole, and union in diastole, without regurgitation, prolapse, or myxomatous changes noted. The tricuspid valve leaflets display mild regurgitation with evidence of severe pulmonary hypertension. The left ventricular outflow tract demonstrated normal laminar flow and the visible aorta is unremarkable. The right ventricular outflow tract assessment revealed normal laminar flow, with an increased main pulmonary artery diameter and reduced distensibility. There is no pulmonic insufficiency and no aortic valve insufficiency documented. There is no visible pericardial, pleural, or free peritoneal fluid noted. The cardiac chambers, pericardial and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.

CANINE CARDIAC PARAMETERS	Body Weight kg	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	37.5 kg	150	3.95	5.43	NM	4.82	2.1
CANINE CARDIAC PARAMETERS	**FS**	**EPSS**	**PV V MAX (m/s)**	**AV V Max (m/sec)**	**MR Vmax**	**TR Vmax**	**RPA distensibility (normal >30%)**
NORMAL PARAMETER	28-40	<0.6	0.7-1.6	0.7-1.7	4.5-5.5	< 2.7	
PATIENT	56	0.4	0.8	1.8	NM	4.8	22



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ECG:
There is a six-lead ECG available for review. The underlying rhythm is regular at an average rate of 150bpm. The rhythm appears to be sinus in origin with narrow QRS complexes (<70ms). There is a mild right axis shift noted. There is no atrial or ventricular ectopy and no conduction delay or block identified. This is most consistent with a normal sinus rhythm with a right axis deviation, consistent with the noted right ventricular hypertrophy.

ULTRASONOGRAPHIC FINDINGS

These findings identify significant pulmonary hypertension (PH) in the absence of any clinically relevant left-sided disease. Therefore, cor pulmonale secondary to primary pulmonary disease/PH is the likely cause for morbidity. Pulmonary hypertension in dogs is most commonly secondary to primary respiratory disease (chronic bronchitis, pulmonary fibrosis, or other forms of pulmonary interstitial disease). Pulmonary hypertension can also develop in dogs with severe heartworm disease or secondary to pulmonary thromboembolism (PTE). Less commonly, pulmonary hypertension is identified in dogs as an idiopathic condition. The degree of PH has resulted in right sided cardiac enlargement (cor pulmonale), and commonly causes syncope. The clinical signs are likely attributable to this condition.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the degree of right sided cardiac enlargement, cardiac therapy is reasonable at this time. Treatment for the PH/presumed respiratory disease is also warranted, as clinical signs are present. Therapy should include Vetmedin (0.25-0.35 mg/kg BID), sildenafil (2 mg/kg TID), and enalapril (0.5 mg/kg BID assuming normotension and lack of renal insult). Baseline thoracic radiographs, blood pressure and chemistry panel should be performed now, and again in 1-2 weeks. A repeat echocardiogram, thoracic radiographs, blood pressure, and chemistry panel is indicated in another 3-6 months, or sooner if progression is suspected, clinical signs develop/worsen, or additional cardiac therapy is being contemplated.

Anesthesia considerations:
Anesthesia should be avoided if possible. If anesthesia is necessary, then alpha-2 agonists, ketamine, and Telazol should be avoided. If an ACE inhibitor (enalapril, benazepril) or spironolactone is being given, it should not be administered on the morning of general anesthesia. Other cardiac medications should be administered per the normal dosing schedule. Fluid therapy during anesthesia should be considered at a reduced rate (5 ml/kg/hour) if possible (i.e., if not hypotensive). A shorter anesthetic duration will reduce the risk of complications. Pre-oxygenation is mandatory. Premedication with an opioid (e.g., butorphanol, hydromorphone, oxymorphone) with or without a benzodiazepine is generally the safest protocol. An induction agent such as Propofol, alfaxalone, or diazepam/etomidate can be used to effect. Maintenance of anesthesia with isoflurane or sevoflurane is reasonable.

Diet:
A high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina that is highly palatable with adequate protein and calories for maintaining optimal body condition with mild dietary sodium restriction (<100 mg/100 kcal) is recommended. Consider omega-3 fatty acid supplementation. Ensure the patient is not currently receiving a boutique, exotic, or grain-free diet.

Activity:
Moderate physical activity (meandering walks, exploring the backyard, playing with toys inside, getting excited when family gets home, etc.) is encouraged, but periods of strenuous aerobic activity (jogging, strenuous outdoor ball play, prolonged play at the dog park, etc.) should be avoided, especially during periods of high heat (> 80 F) and humidity. Dogs with heart disease tend to tolerate cool and cold

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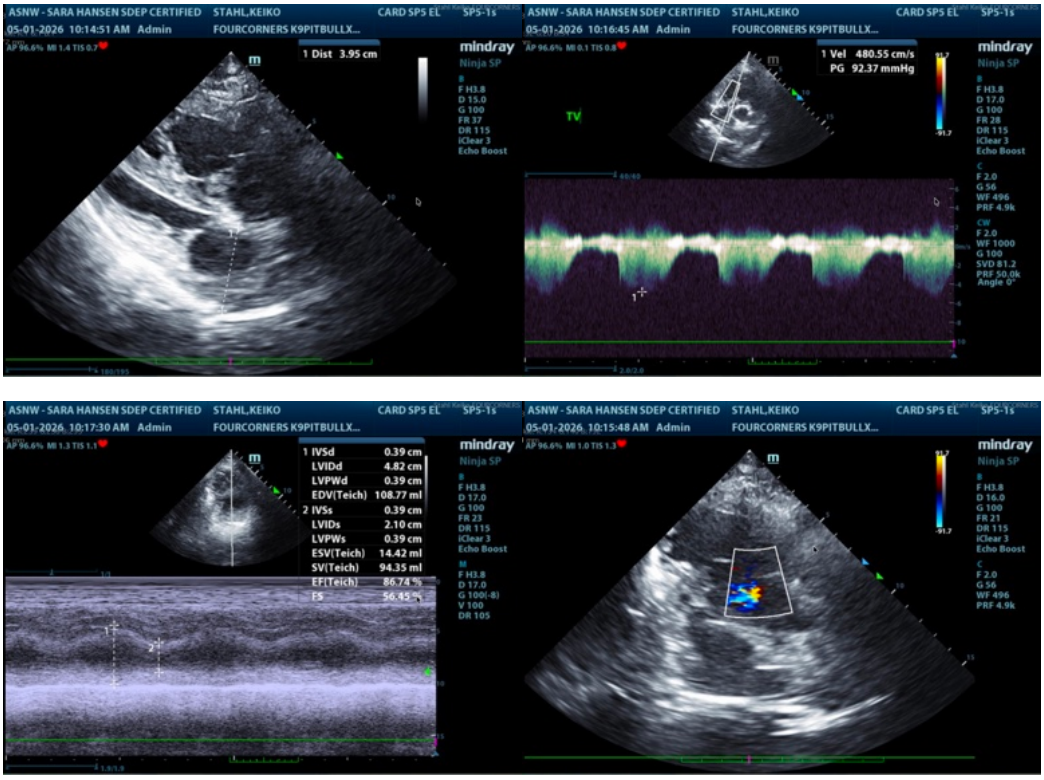
temperatures much better than high temperatures. Avoid sudden increases in activity (e.g. 2 block walks during the week but 2 mile walks followed by 30 minutes at the dog park on the weekends) as this may be difficult for the cardiovascular system to deal with.



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.

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

info@SonoPath.com