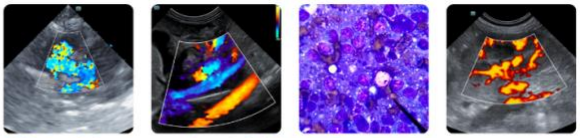

PATIENT

Dexter Prokop

SPECIES

Canine

BREED

Border Collie Mix

SEX

Intact Male

AGE

11 Years 3 Months

WEIGHT

66.8 pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Budd Lake Animal Hospital

REFERRING VET

Dr. Welch

INVOICE

13644

DATE

02/09/26

PRESENTING CLINICAL SIGNS

- Needs dental- grade 3-4/4 dental disease
- Heart Murmur 3-4/6 since Puppy
- No clinical signs, intact (never neutered due to murmur)

Abnormal PE/Chem/CBC/UA Results: Creat 1.6, BUN 30, SDMA 21.5, ALkP 569, chronic lyme/ anaplasmosis positive

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	--	--	NM	1.15	39	70	0.2
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (lbs)	**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	170	5.7	0.9	66.8	3.8	4.3	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 32different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented mild thickening consistent with mild degenerative change/endocardiosis. Doppler revealed mild eccentric insufficiency. The **left ventricle** presented subjective borderline increased thickness with mild alinear contour and was not dilated or restricted. The **myocardium** presented some increased echogenicity without vidence of significant fibrotic or ischemic disease suggestive of age-related myocardial remodeling. **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 dynamic to turbulent outflow pattern with an indistinct ridge of tissue. Within the subaorta, LVOT consistent with subaortic stenosis. Overtly normal ascending aorta dimension without overt dilation. The aortic valve was overtly normal in structure with aortic valve insufficiency on doppler measuring 5.5 m/s. Significant measured LV outflow velocity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. No overt significant TR on doppler. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness.

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Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Normal measured RVOT velocity, No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of cardiac / pericardial tumors was visible.

ULTRASONOGRAPHIC FINDINGS

- Severe subaortic stenosis with concurrent borderline to mild LV hypertrophy/remodeling.
- Concurrent aortic valve insufficiency.
- Compensated mitral regurgitation (B1).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

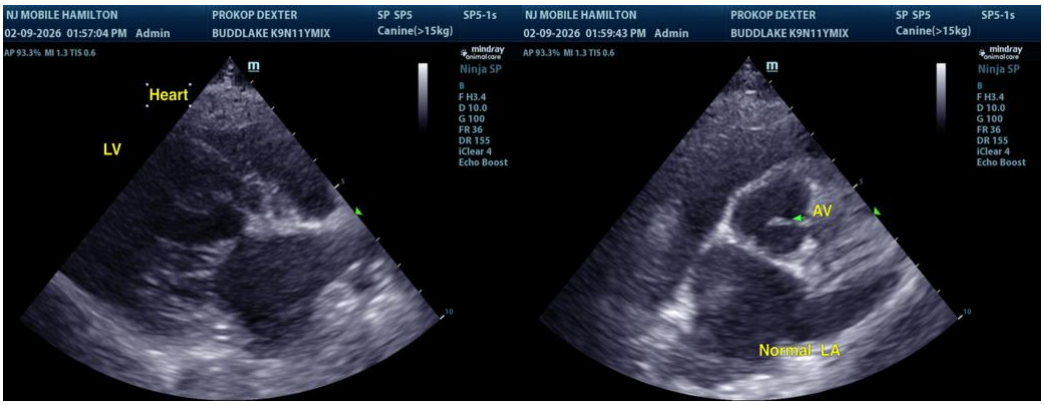
The cause of the murmur is primarily owing to severe subaortic stenosis with peak gradient consistent with significant obstruction to LV outflow (estimated pressure gradient of approximately 120 millimeters of mercury).

Overall, this appears to be compensated given normal LV internal dimension with evidence of secondary borderline to mild LV hypertrophy. No other overt congenital shunts noted. The lack of LA enlargement implies the current risk of complications, secondary to subaortic stenosis and mitral valve insufficiency, is likely low.

Atenolol 0.5 to 1.0 mg/kg PO SID to BID is warranted given measured LV outflow velocity and associated pressure gradient. No overt indication for additional medication. Referral to local cardiologists would be in this patient's best interest if possible.

Exercise restriction is advised. Serial monitoring for clinical signs such as labored breathing, exercise intolerance or collapsing episodes is indicated as SAS patients are predisposed to arrhythmia. Serial monitoring is indicated for further prognosis if referral is not possible.

Recheck echo is recommended in six months or sooner if clinically indicated. Anesthetic risk is considered elevated. If required, the following protocol is suggested with close monitoring and limited anesthetic time. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.



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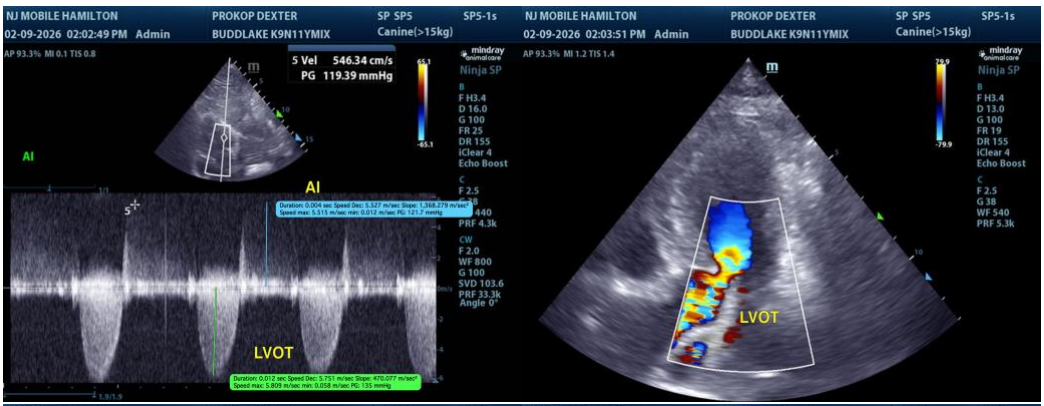

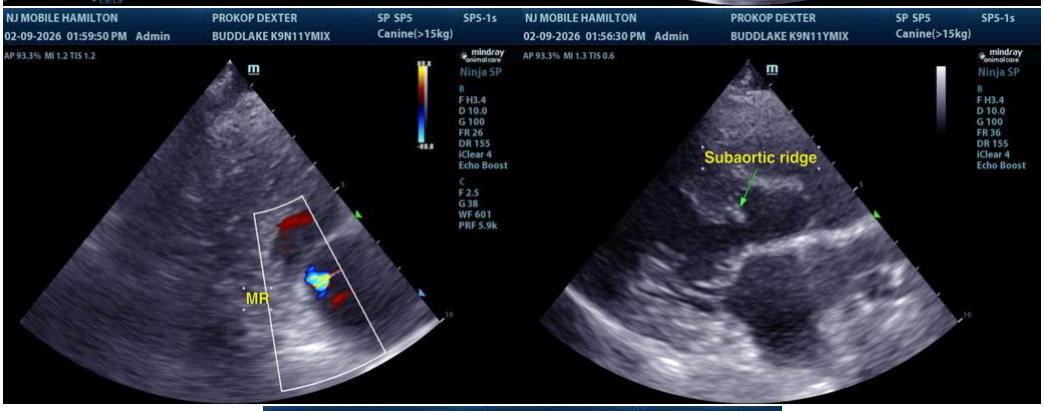

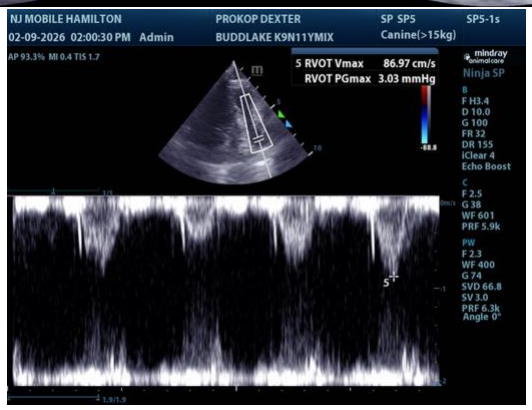

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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