



PATIENT

Basil Schlegel

PRESENTING CLINICAL SIGNS

History: Presented for acute onset lethargy. Weak thready pulses with muffled heart sounds on PE. TFAST showed pericardial effusion.

SPECIES

Canine

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Moderate volume pericardial effusion with collapse of the right atrial wall consistent with cardiac tamponade. Mild diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. No mitral regurgitation with no left atrial dilation. Decreased LV diameter with pseudohypertrophy. Adequate myocardial function. The tricuspid valve appears normal with no tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. No obvious tumor associated with the RA or AV groove; however, atypical hypoechoic lesions are noted within the pericardial space (see below). The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted.

BREED

Border Collie

SEX

Male Neutered

AGE

9 years

CARDIAC CHART

WEIGHT

52.9lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

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	<1.6	28-40	40-100	<0.6
PATIENT	NA	NA	1.2	1.2	30	60	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	BELOW	BELOW	BELOW	BELOW
PATIENT	NM	0.95	1.1	24.0	2.2	2.4	1.7
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the clinical signs is cardiac tamponade due to pericardial effusion suspected to be secondary to cardiac neoplasia. While it is difficult to be definitive on 2D ultrasound, atypical lesions are seen within the pericardial space. A stalk cannot be visualized; however, suspicion for a tumor is high. Advanced imaging such as a CT scan may be warranted. The most likely tumor type is a hemangiosarcoma (HSA), however other tumor types are possible but less likely, including chemodectoma or ectopic parathyroid tumor. Regardless the patient is in cardiac

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Jessica Bailes

HOSPITAL NAME

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Small Veterinary
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REFERRING VET

Dr. Vaughn



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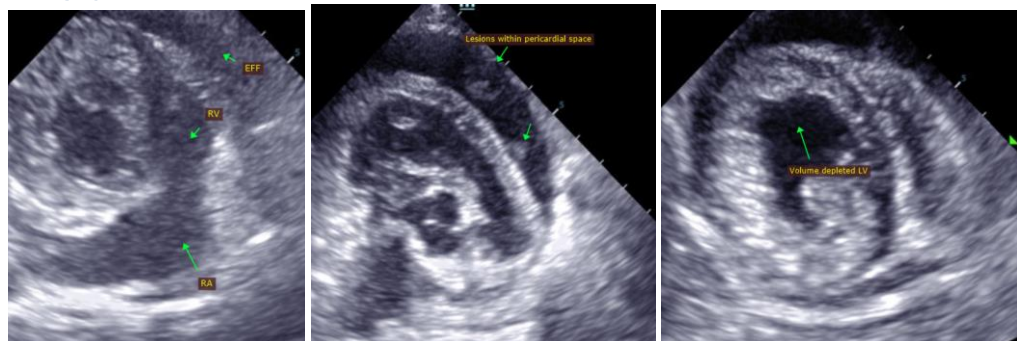
tamponade secondary to hemorrhage causing volume depletion and a drop in cardiac output. Emergency pericardiocentesis is indicated, and cytology of the pericardial fluid is recommended in search of a definitive diagnosis. There is also evidence of dehydration/hypovolemia (small LVIDd, increase LV wall thickness/pseudohypertrophy) and aggressive fluid resuscitation is recommended. If this is not possible in your practice, immediate referral to a 24-hour care facility is recommended as this patient is highly unstable and at risk for decompensation, shock and sudden death.

If confirmed, the prognosis with cardiac hemangiosarcoma is poor, with a MST of only 2-3 months. The emergent limiting factor is often recurrent hemorrhage, and a pericardial window or subtotal pericardectomy may relieve clinical signs although is rarely recommended. HSA also has a high metastatic rate, and **full systemic screening is recommended for metastatic lesions**. Chemotherapy and/or radiation can also be discussed with an Oncologist and may extend average survival time. Patients with cardiac neoplasia are at high risk for recurrent hemorrhage and development of tamponade, malignant arrhythmias/sudden death in the future.

No cardiac medications are clearly indicated at this time. Over the counter herbal supplement Yunnan Baiyao may help decrease risk of bleeding, however true benefit is speculative (1 capsule PO BID).

Once symptoms are relieved via pericardiocentesis and fluid resuscitation, a recheck of tumor dimension and fluid status can be considered in 1-2 months, sooner if recurrence of clinical signs.

IMAGES



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

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

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