



PATIENT

Annabelle Steinmetz

PRESENTING CLINICAL SIGNS

History: Presented for lethargy and distended abdomen. Pericardial effusion and ascites noted on brief evaluation. No heart murmur noted.

SPECIES

Canine

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. A single lateral film is included. Globoid cardiomegaly. No obvious evidence of CHF.

BREED

Lab

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 150bpm (range 125-188bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with respiratory variation.

SEX

Female Spayed

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Large volume pericardial effusion with collapse of the right atrial wall consistent with cardiac tamponade. Suspicious hypoechoic mass-lesion identified in the region of right heart associated with the pericardium. Additionally, a small hyperechoic lesion is noted associated with right auricle. No obvious mitral or tricuspid regurgitation. LV function is adequate. The Left atrium is normal in diameter. The pulmonic and aortic valves are normal in appearance. Normal outflow velocities; laminar flow.

AGE

6 years

CARDIAC CHART

WEIGHT

91lbs

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	2.6	1.5	1.4	60 93		0.5
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	146	0.9	0.95	41.3	2.9	4.3	1.4
*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)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				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)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Lux

INVOICE

24548

DATE

6/2/22

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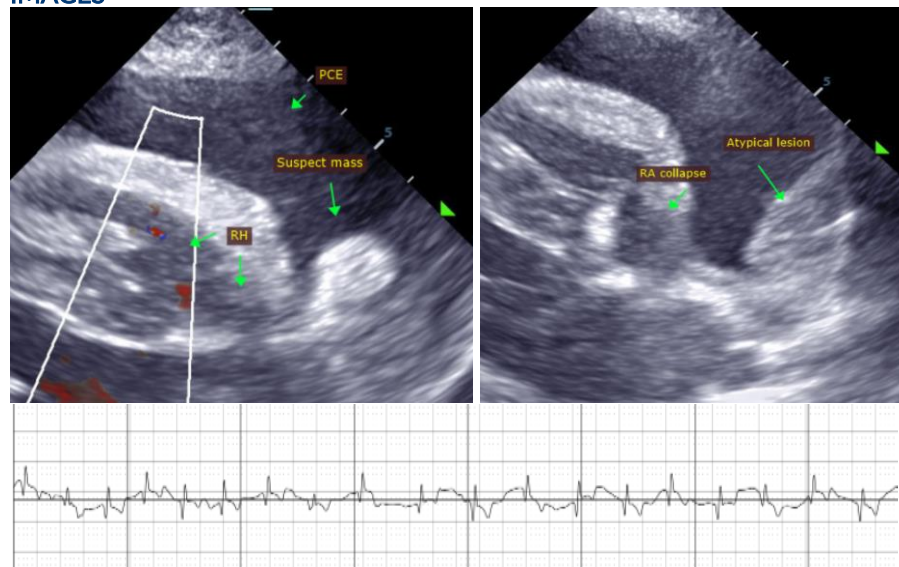
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the clinical signs is cardiac tamponade due to pericardial effusion secondary to suspect cardiac neoplasia associated with the right heart. Tamponade is leading to caval congestion and effusion. It is difficult to be definitive on 2D ultrasound with this type of mass; however, suspicion for a tumor is high. The most likely tumor type given this location 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 tamponade secondary to hemorrhage causing volume depletion, hepatic congestion and a drop in cardiac output. **Emergency pericardiocentesis is indicated, and cytology of the pericardial fluid is recommended in search of a definitive diagnosis. 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.** The ECG is unremarkable; however, the patient is at high risk for malignant arrhythmias, and overnight monitoring is advised.

The prognosis with cardiac hemangiosarcoma is poor, with an 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. 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

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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.

SPECIES

Canine

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.

BREED

Lab

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