



**PATIENT**

Maggie Stenko

**SPECIES**

Canine

**BREED**

Shih Tzu Mix

**SEX**

FS

**AGE**

12 years

**WEIGHT**

10.2kgs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Kelly Reschny, CVT

**HOSPITAL NAME**

Beattie Pet Hospital  
Stoney Creek

**REFERRING VET**

Dr. Salib

**INVOICE**

28335

**DATE**

1/16/23

**PRESENTING CLINICAL SIGNS**

History: Presented for laboured breathing, collapsed while walking outside, lethargy. Eating/drinking normal. PE: Dental disease, muffled heart sounds, moderately tense on abdominal palpation. Panting. Current Medications: Clavaseptin and Gabapentin  
Abnormal PE/Chem/CBC/UA Results: WBC 19.11 NEUT 14.65 MONO 1.33 AMYL 363 K 3.3 CI 107

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Large volume pericardial effusion with diastolic collapse of the right atrial wall consistent with cardiac tamponade. Hypoechoic well-demarcated mass lesion associated with the right AV groove (see below). LV function is adequate. LV is decreased in dimension with adequate function. LV wall thicknesses are increased consistent with volume depletion. Left atrium is normal in diameter. No obvious MR or TR. The pulmonic and aortic valves are normal in appearance. Normal outflow velocities. Large volume pericardial effusion. No obvious pleural effusion.

**CARDIAC CHART**

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	1.0	1.1ty	39	72	0.14
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	1.1	1.2	10	1.4	2.06	1.26
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				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 pericardial effusion secondary to cardiac neoplasia associated with the right AV groove. The most likely tumor type given this location is hemangiosarcoma (HSA). Other tumor types are less likely, including chemodectoma or ectopic parathyroid tumor. Regardless the patient is in cardiac tamponade secondary to hemorrhage from the tumor causing volume depletion and a drop in cardiac output. An immediate pericardiocentesis is indicated to stabilize the situation, and cytology of the pericardial fluid is recommended in search of a definitive diagnosis. **If this cannot be**



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**performed safely in your facility, immediate referral should be offered.** There is also evidence of dehydration/hypovolemia (small LVIDd, increase LV wall thickness/pseudohypertrophy) and **aggressive fluid resuscitation is recommended.**

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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 pericardiectomy may relieve clinical signs. Chemotherapy and/or radiation can also be discussed with an Oncologist and may extend average survival time. HSA also has a high metastatic rate, and full systemic screening is recommended for metastatic lesions. Patients with cardiac neoplasia are at high risk for recurrent hemorrhage and development of tamponade, malignant arrhythmias/sudden death in the future.

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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).

**AGE**

12 years

Plan: Immediate pericardiocentesis, fluid resuscitation and ideally overnight monitoring. 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.

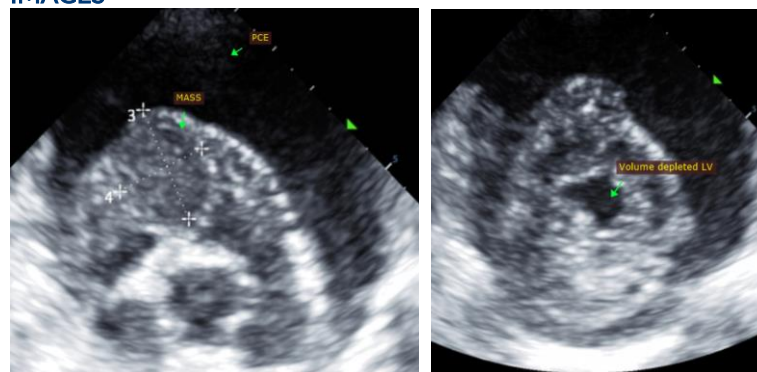
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**IMAGES**

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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.

**HOSPITAL NAME**

Beattie Pet Hospital  
Stoney Creek

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.

**REFERRING VET**

Dr. Salib

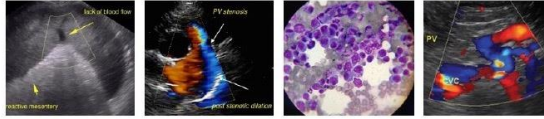
**Maggie Machen Lamy, DVM**  
**Diplomate of the American College of Veterinary Internal Medicine (Cardiology)**  
info@sonopath.com

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