



PATIENT

Blaze Mascera

SPECIES

Canine

BREED

Boxer

SEX

Neutered Male

AGE

11 Years 11 Months

WEIGHT

Pending

INTERPRETED BY

Eric Lindquist, DMV,
DABVP (CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Chloe Lowe, CVT

HOSPITAL NAME

Animal Mansion
Veterinary Hospital

REFERRING VET

Dr. Bertolpo

INVOICE

73774

DATE

3/18/26

PRESENTING CLINICAL SIGNS

Grade 4/6 murmur with Syncopal episodes at beginning of March 2026. Heart rate varies from 120 to 170 bpm with tachyarrhythmia. EKG- no VPCs

Abnormal PE/Chem/CBC/UA Results: WNL

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	--	--	1.1	1.4	45	80	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	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	~180	2.0	1.5	NP	2.2	4.3	--

Cardiac Presentation

A heart base mass was noted in this patient measuring 4.6 cm. The mass impinged upon the pulmonary artery and aorta, superimposing the left atrium. No volume overload noted in the left heart. The right heart revealed pulmonary artery dilation and right ventricular hypertrophy. Tachycardia noted.

ULTRASONOGRAPHIC FINDINGS

- Heart base mass – Likely aortic body tumor/chemodectoma.
- Right-sided volume overload.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Holter monitor and palliative measurements recommended. Abdominal sonogram recommended to assess for potential ascites or right-sided failure secondary to obstructive mass in the heart. Chest CT would be ideal to assess the extent of the mass that may extend beyond the visible acoustic window. Serial blood pressures warranted to assess if systemic hypertension may be present as well.

SonoPath CT Services are offered at the SonoPath Imaging and Veterinary Education Center, 141 Main St (rt 206), Andover, New Jersey, a 20-minute drive west on route 80/206 North from the route 80/287 interchange/Parsippany, New Jersey. More information can be found at

<https://sonopath.com/services/vetimaging/>



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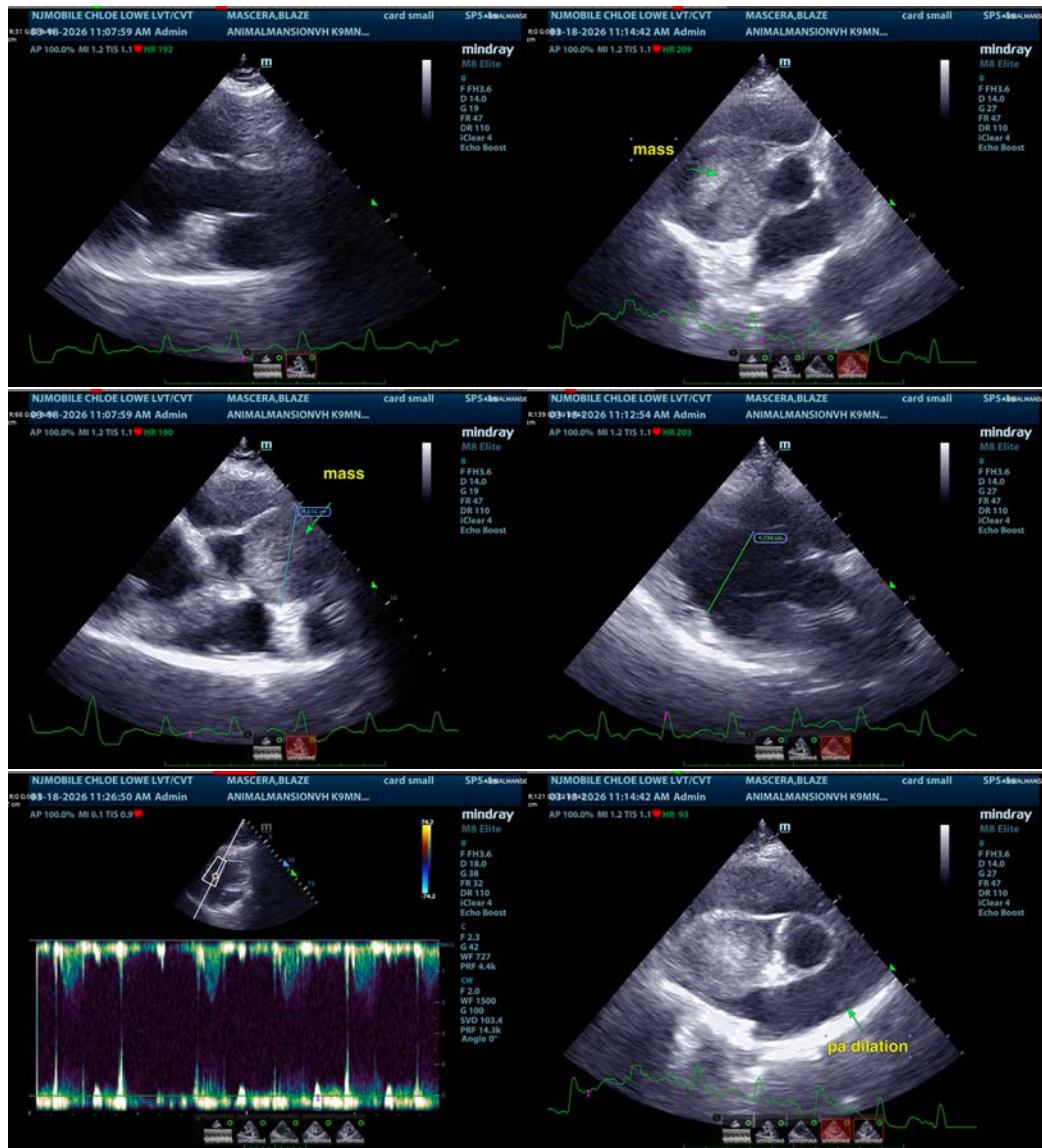
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS,
CEO, Owner, Founder -- SonoPath.com
info@SonoPath.com



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Pericardial Effusion and Cardiac Neoplasia

<http://www.sonopath.com/CardiacNeoplasiaEffusion>

Description: The pericardium is a fibrous sac that encloses the heart and the great vessels—aorta, pulmonary artery, proximal pulmonary veins, and vena cava—located at the heart’s base. It is attached caudally to the diaphragm and under normal circumstances contains 1-15 mL of fluid. The latter is comprised of phospholipids that lubricate the heart and allow it to expand and contract without generating friction. The pericardium also fixes the heart, prevents excess motion, and links the diastolic distensibility of the ventricles, thus limiting the degree to which either the left or the right ventricle will distend during diastole. When there are acute changes in venous return (i.e., during exercise), the pericardium plays a critical role in limiting ventricular filling. In cases of chronic cardiac enlargement, the pericardium also becomes distended, and its ability to limit ventricular filling, especially when the heart is at rest, becomes compromised. Pericardial tamponade occurs when there is a rapid accumulation of fluid and the pressure inside the pericardium increases significantly. With tamponade, ventricular filling is restricted and cardiac output is decreased. The right atrium and ventricle are the most vulnerable to this condition as these compartments have thinner walls and a lower pressure.

Etiology: Causes of pericardial effusion include:

- Neoplasia
 - Right atrial (RA) hemangiosarcoma
 - Heart base (aortic body) tumors
 - Mesothelioma
 - Rhabdomyosarcoma
 - Ectopic thyroid carcinoma
 - Metastatic neoplasia
- Idiopathic
- Congestive heart failure
- Peritoneal-pericardial diaphragmatic hernia
- Pericardial cyst
- Hypoalbuminemia
- Infectious pericarditis (bacterial, *Coccidioides immitus*)
- Feline infectious peritonitis
- Left atrial tear secondary to valvular disease
- Coagulopathy

The majority of neoplastic masses consist of hemangiosarcoma and heart-based tumors (chemodectomas or ectopic thyroid adenocarcinoma). Idiopathic pericardial effusion is a diagnosis of exclusion; the effusion



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is typically hemorrhagic. Approximately 50% of dogs will be cured with a single pericardiocentesis, while some dogs will require multiple pericardiocenteses as well as surgery. A peritoneal-pericardial diaphragmatic hernia is a congenital hernia seen in dogs and cats in which the abdominal contents (i.e., liver, small intestine, spleen, stomach) herniate into the pericardial sac. Constrictive pericarditis is an uncommon condition in which a non-distensible, thickened, fibrotic pericardium develops over time.

Clinical Signs: One will observe the following clinical signs, which often present in combination: ascites, lethargy, exercise intolerance, pale mucous membranes, weak pulses, *pulsus paradoxus*, and respiratory distress.

Diagnostics: Survey radiographs will reveal hepatomegaly, cardiomegaly (generalized or sectorial globoid), and small pulmonary vessels. Pulmonary edema is typically not found, although one may discover concurrent pulmonary metastatic disease. An ECG will show electrical alternans or small complexes, but often the changes are very subtle and difficult to detect.

Echocardiography is usually considered the gold standard for diagnosing pericardial effusion. Findings include:

- Anechoic space between the heart and the pericardium.
- Abnormal side-to-side cardiac motion.
- Decreased chamber size (right ventricle [RV] and left ventricle [LV]).
- Presence of a pericardial or cardiac mass.
- Tamponade with early diastolic RA and RV collapse.

Cytology is helpful in the diagnosis of lymphoma, septic pericarditis, and idiopathic effusion, but not in cases of neoplasia.

According to a study that found troponin I levels to be higher in dogs with neoplastic pericardial effusion, the cardiac troponin I assay can be helpful in the diagnosis hemangiosarcoma.

Prognosis:

- Cardiac hemangiosarcoma: < 8 months with surgical debulking and chemotherapy.
- Chemodectoma (aortic derived): MST 730 days post pericardectomy.



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- Idiopathic: 50% complete resolution post cardiocentesis; curative with pericardectomy, which can be done via thoracotomy, or thoracoscopy, or using a balloon to tear the pericardium.
- Mesothelioma: Poor.
- Restrictive pericarditis: Poor, especially when the pericardium has not been surgical stripped.

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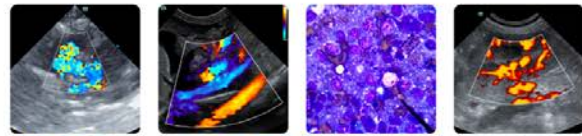
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