



PATIENT PRESENTING CLINICAL SIGNS

Bruno Farrar

History: Collapsing episodes. Had pericardial effusion (70ml) tapped at AERA on Saturday.
-Current medications: Carprofen, cosequin, yunnan baiyo

SPECIES ECHOCARDIOGRAM FINDINGS

Canine

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve with no obvious prolapse into the left atrial lumen. No mitral regurgitation with normal left atrial dimension. Decreased LV diameter with significant volume depletion. Mildly depressed myocardial function. Increased LV wall thickness. Tricuspid valve appears normal in form and function. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. No obvious tumor within the right heart chambers, in the AV groove. Hyperechoic tissue suspected to be associated with the tip of the right auricle, although this is inconclusive. No obvious heart-based tumors. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocity; laminar flow. No aortic or pulmonic insufficiency. Small to moderate volume pericardial effusion. No obvious pleural effusion.

BREED

Boxer

SEX

Male Neutered

AGE

9 years

CARDIAC CHART

WEIGHT

93lbs

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	NM	1.2	26	50	NM
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	0.9	0.53	42.2	2.4	3.4	2.5
*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

Assuming the effusion was hemorrhagic, the two most common causes of hemorrhagic pericardial effusion are idiopathic and neoplastic. Less commonly, pericarditis (an inflammatory condition), a left atrial tear, or a bleeding disorder should also be considered. Idiopathic by definition means that a cause cannot be found. If diagnosed (a rule out diagnosis), the long-term prognosis with idiopathic effusion has the potential to be good. Cardiac decompensation is not a rule out for hemorrhagic effusion, however, should always be considered in cases of non-hemorrhagic (transudate, etc.) results.

INVOICE

31920

DATE

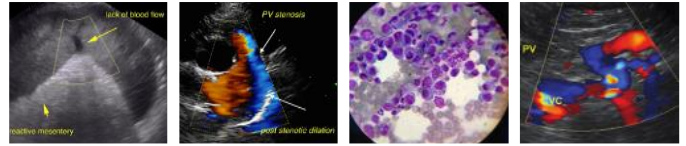
7/18/23

HOSPITAL NAME

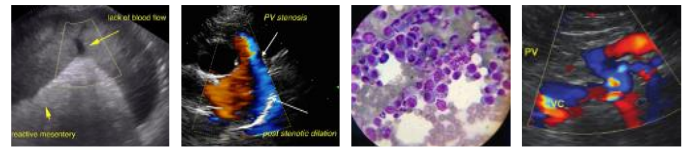
Ringwood Animal Hospital

REFERRING VET

Dr. Smith



PATIENT	Regardless, the cardiac structure and function was found to be largely normal in this study without an obvious tumor identified. That being said, a small lesion is noted associated with the tip of the right auricle. This may be normal fat/soft tissue; however, follow up is recommended based upon the location. Unfortunately, there is significant effusion present suggesting the patient is re-effusing. No tamponade is appreciated at this time; however, this may change in the near future. Finally, the cardiac dimensions and function support volume depletion and fluid therapy is recommended in this case to stabilize the situation.
Bruno Farrar	
SPECIES	
Canine	
BREED	
Boxer	Even with inconclusive results in this study, neoplasia is always suspected in this signalment. A small additional extra-cardiac lesion can easily be missed on 2d ultrasound, and a thoracic CT is recommended to further screen the external surface of the heart. Additionally, full systemic work up to look for additional lesions (AUS, CXR, etc.) can also be considered. HSA should still be suspected, which carries a poor prognosis with most patients succumbing within 2-3 months.
SEX	
Male Neutered	
AGE	
9 years	Regardless of underlying cause, it is impossible to predict if and when pericardial effusion will recur. Some patients with idiopathic effusion need to be tapped between 1 and 3 times then never again. Other patients may experience frequent recurrence with either HSA or idiopathic disease. If the effusion reoccurs frequently, a surgical procedure called a pericardiectomy can be discussed although is rarely recommended with suspect HSA.
WEIGHT	
93lbs	No cardiac medications are clearly indicated at this time. Over the counter herbal supplement Yunnan Baiyao (aka Yunnan Paiyao) may help decrease risk of bleeding; however, true benefit is speculative (1 capsule PO BID). Please monitor at home for signs of recurrent pericardial effusion including pale gums, difficulty breathing, lethargy/collapse, cough, exercise intolerance, abdominal distention, vomiting, and/or inappetence. If you notice any of these symptoms, urgent evaluation should be sought. Sudden death is always a possibility in cases of pericardial effusion and activity restriction is advised.
INTERPRETED BY	
Maggie Machen Lamy, DVM, DACVIM (Cardiology)	
IMAGING PERFORMED BY	
Val Shumskaya	Ventricular arrhythmias are common in this breed and with pericardial effusion (none appreciated here), and hospitalization for ECG monitoring and fluid resuscitation should be considered as the gold standard therapy. This will also allow monitoring for rebleeding overnight.
HOSPITAL NAME	
Ringwood Animal Hospital	PLAN Consider full systemic work-up. Consider submit fluid for cytology. Monitor for arrhythmias/worsening re-effusion for the next 24-hours as repeat centesis may become necessary. Consider advanced imaging such as thoracic CT scan. Fluid therapy is strongly recommended.
REFERRING VET	
Dr. Smith	If no further evaluation is sought, a recheck echocardiogram is recommended in 1-2 months to reassess the surface of the heart and screen for recurrent effusion, sooner if any recurrence of clinical signs.
INVOICE	
31920	
DATE	
7/18/23	



PATIENT

Bruno Farrar

SPECIES

Canine

BREED

Boxer

SEX

Male Neutered

AGE

9 years

WEIGHT

93lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

**IMAGING
PERFORMED BY**

Val Shumskaya

HOSPITAL NAME

Ringwood Animal
Hospital

REFERRING VET

Dr. Smith

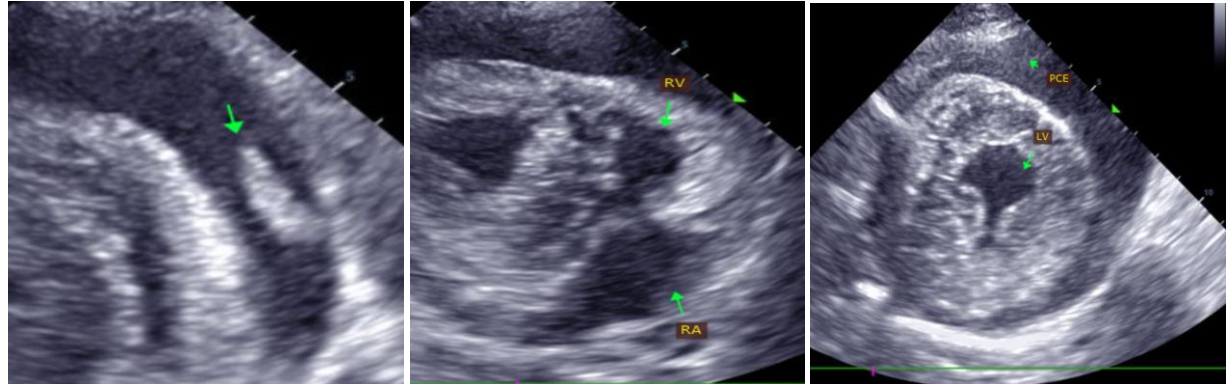
INVOICE

31920

DATE

7/18/23

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.

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