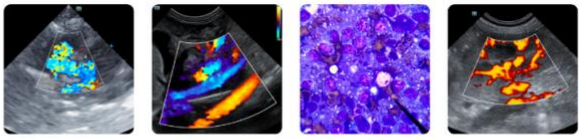


PATIENT

Molly Brown

SPECIES

Canine

BREED

Golden Retriever

SEX

Spayed Female

AGE

7 Years

WEIGHT

34.9 kg

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Andrea Nicastro, DVM, DACVIM

HOSPITAL NAME

VSC Blue Pearl, Mt. Pleasant

REFERRING VET

Dr. Danielle Frasier

INVOICE

35494

DATE

1/19/26

PRESENTING CLINICAL SIGNS

History:

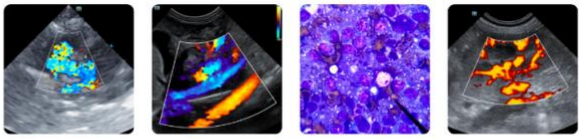
- Presented for collapse
- Pericardial effusion seen on fast scan

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	BW	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	34.9 kg	170	2.8	1.2	1.04	1.98	1.21
CANINE CARDIAC PARAMETERS	**FS**	**EPSS**	**PV V MAX (m/s)**	**AV V Max (m/sec)**	**MR Vmax**	**TR Vmax**	**RPA distensibility (normal >30%)**
NORMAL PARAMETER	28-40	<0.6	0.7-1.6	0.7-1.7	4.5-5.5	< 2.7	
PATIENT	39	0.5	0.8	1.1	--	--	NM

Cardiac Presentation

The left atrium is small and volume contracted. The left ventricle is small and pseudohypertrophied with normal systolic function. The right atrium and ventricle are subjectively small in dimension and display evidence of diastolic collapse/compression. The anterior and posterior mitral and tricuspid valve leaflets presented normal linear structure, extension in systole, and union in diastole without prolapse or myxomatous changes noted. There is no mitral nor tricuspid valve regurgitation noted. The left ventricular outflow tract demonstrated normal laminar flow, and the visible aorta is unremarkable. The right ventricular outflow tract assessment revealed normal laminar flow, and appropriate diameter and distensibility. There is no evidence of semilunar valve insufficiency. There is moderate pericardial, no pleural, and mild free peritoneal fluid noted. There is mild hepatic venous congestion, and moderate to severe gallbladder wall edema. There is a small hypoechoic mass lesion at the right atrioventricular junction. While this cannot be definitively differentiated from a thrombus secondary to the presumed intrapericardial hemorrhage, its appearance most closely resembles a mass over a thrombus. The remaining cardiac chambers and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.



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ULTRASONOGRAPHIC FINDINGS

- These findings identify pericardial effusion in the setting of a suspected mass lesion in the wall of the right atrium. The location/appearance of the mass is consistent with hemangiosarcoma. The pericardial effusion is most likely neoplastic in origin.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommendations/Treatment:
There is a therapeutic benefit to tapping the pericardium given the presence of tamponade. Evaluation of the fluid will occasionally be of diagnostic value, but in most cases the results are simply compatible with hemorrhage. If it is hemangiosarcoma, the prognosis is very poor, as recurrent effusions are likely, as is the presence of neoplasia elsewhere in the body. Ideally, an abdominal ultrasound should be considered to identify evidence of neoplasia elsewhere in the body, which (or may not) affect prognosis. If no additional masses can be identified, there may be merit to considering surgical intervention, either by taking the entire pericardium (subtotal pericardiectomy), or creation of a smaller hole via approaches less invasive than a median sternotomy. The value of surgery is simply to avoid the effects of recurrent effusion and need for multiple taps; unfortunately surgery does not alter the natural course of disease, which usually only affords a prognosis of a few months. Chemotherapy concurrent with surgery can be associated with a prognosis of up to 4-5 months, but this path is considered too aggressive by many owners who will elect to euthanize rather than pursue surgery/chemotherapy.

Anesthesia considerations:
Anesthesia should be avoided until any signs of CHF and pericardial effusion have resolved. If anesthesia is necessary after that time, then alpha-2 agonists, ketamine, high dose acepromazine, and Telazol should be avoided. Fluid therapy is often necessary in the setting of cardiac tamponade to improve venous return. A shorter anesthetic duration will reduce the risk of complications. Pre-oxygenation is advised. Premedication with an opioid (e.g., butorphanol, hydromorphone, oxymorphone) with or without a benzodiazepine is generally the safest protocol. An induction agent such as Propofol, alfaxalone, or diazepam/etomidate can be used to effect. Maintenance of anesthesia with isoflurane or sevoflurane is reasonable.

Diet:
No special considerations are necessary. Any high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina is reasonable.

Activity:
Moderate physical activity (meandering walks, exploring the back yard, playing with toys inside, getting excited when family gets home, etc.) is encouraged, but periods of strenuous aerobic activity (jogging, strenuous outdoor ball play, prolonged play at the dog park, etc.) should be avoided, especially during periods of high heat (> 80 F) and humidity. Dogs with heart disease tend to tolerate cool and cold temperatures much better than high temperatures. Avoid sudden increases in activity (e.g. 2 block walks during the week but 2 mile walks followed by 30 minutes at the dog park on the

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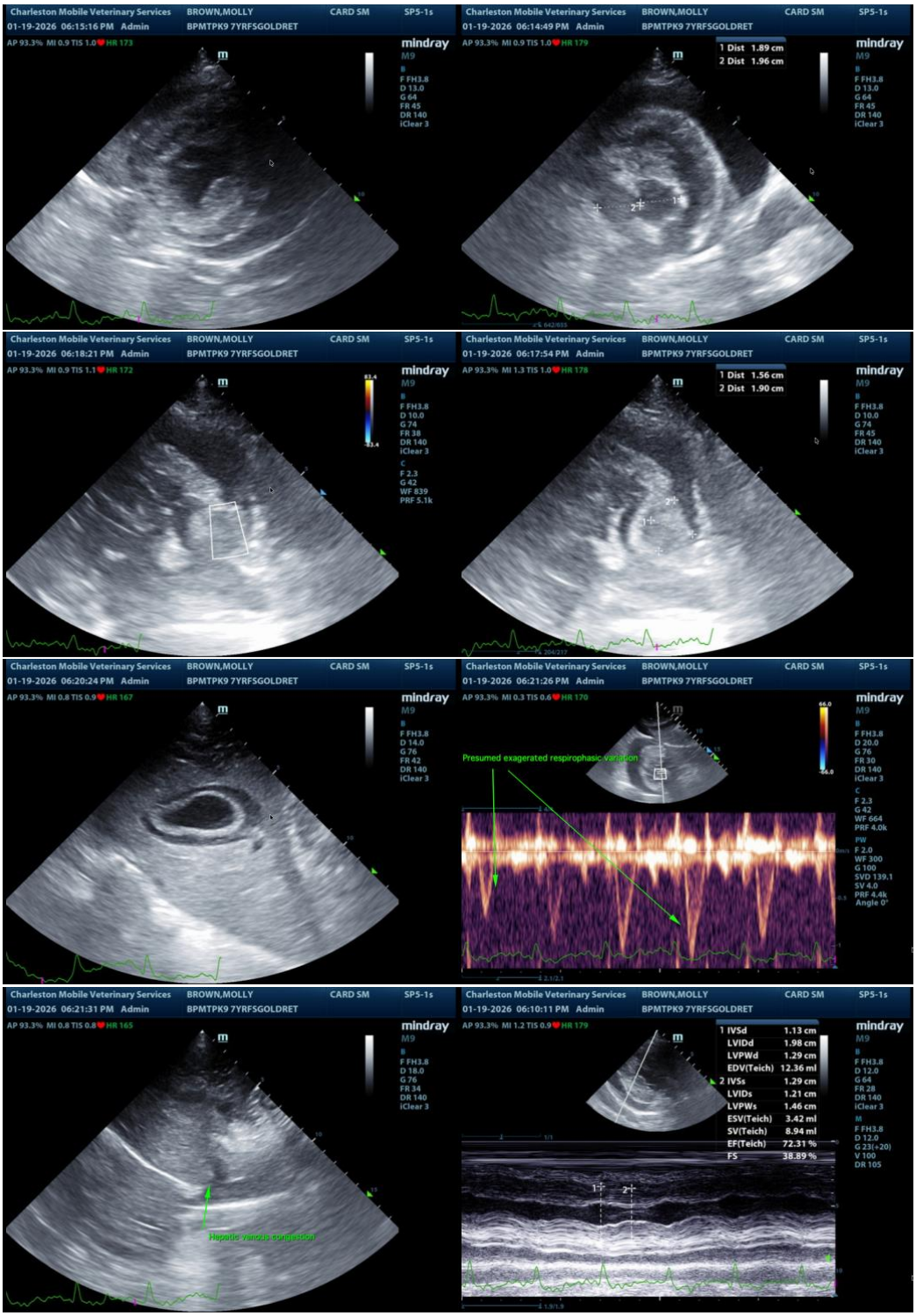
weekends) as this may be difficult for the cardiovascular system to deal with.



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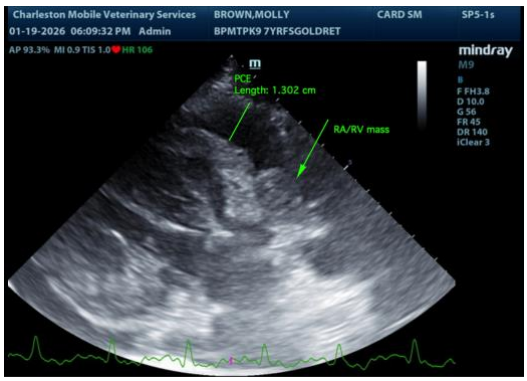

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

info@SonoPath.com