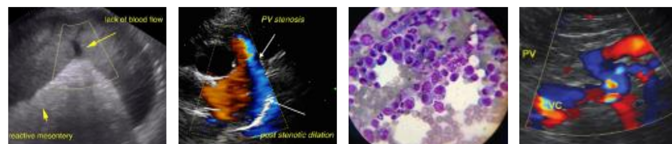


SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT

Chloe Taylor

SPECIES

Canine

BREED

Cocker Spaniel

SEX

Female Spayed

AGE

13 years

WEIGHT

37lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Dr. Karen Ebersole

HOSPITAL NAME

Scanvet

REFERRING VET

Dr. Goodman

INVOICE

25831

DATE

8/17/22

PRESENTING CLINICAL SIGNS

History: Presented to Emergency Clinic for coughing 10 days ago. Previous history of pneumonia, similar sounding cough to owner. Treated with Doxycycline and Cough Tabs, and cough resolved. Presented today for mass removal and seems to have increased RR and effort. No murmur.
-Current medications: Proin, Galliprant, ophthalmic Cyclosporin and Thyro-tabs.
-Abnormal PE/Chem/CBC/UA Results: PE: 2" diameter pedunculated, ulcerated mass on L side face, PD 4/4. Tachypneic. Multiple small to very large lipoma type masses. CBC/Chem: BUN 42, Glob 4.8, ALT 138, ALP 363.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Normal cardiac silhouette. No obvious evidence of CHF. Heavy mixed pulmonary pattern.

ELECTROCARDIOGRAPHIC FINDINGS

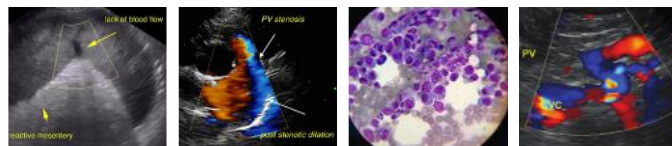
A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 120bpm (range 54-166bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. Grouped beating; however, no obvious prematurity is appreciated. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Suspect profound respiratory sinus arrythmia.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. Trace mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no obvious tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	NM	1.3	60	90	0.3
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	82	2.5	1.4	16.8	2.6	3.9	1.5
*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)
**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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)



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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	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

Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. No significant valvular leaks are visualized, and no evidence of pulmonary hypertension.

The ECG is most consistent with a profound **sinus arrhythmia** with suspected respiratory variation. This is typically a normal finding secondary to high vagal tone (likely secondary to respiratory disease in this case) or can be inappropriate and reflect sinus node dysfunction. The only way to know the difference is to assess response to exercise (does the heart rate/rhythm have a normal response?) or an atropine challenge (0.04mg/kg IV or IM). Further assessment is recommended prior to anesthesia, particularly given the signalment (female cocker spaniels being predisposed to SSS). If the rate does not stimulate appropriately (should develop a regular sinus tachycardia and maintain for 10-15 minutes), consider a holter monitor or referral as the next step in evaluation.

No cardiac medications are indicated at this time as the cough appears non-cardiac in origin. Continued work up for infectious/inflammatory respiratory causes is recommended. Options include Baytril or similar antibiotic, anti-inflammatory prednisone, aggressive hydrocodone, etc. If refractory, may consider TTW/BAL for further information.

Monitor for development of a heart murmur, cough, labored breathing, exercise intolerance or collapse episodes.

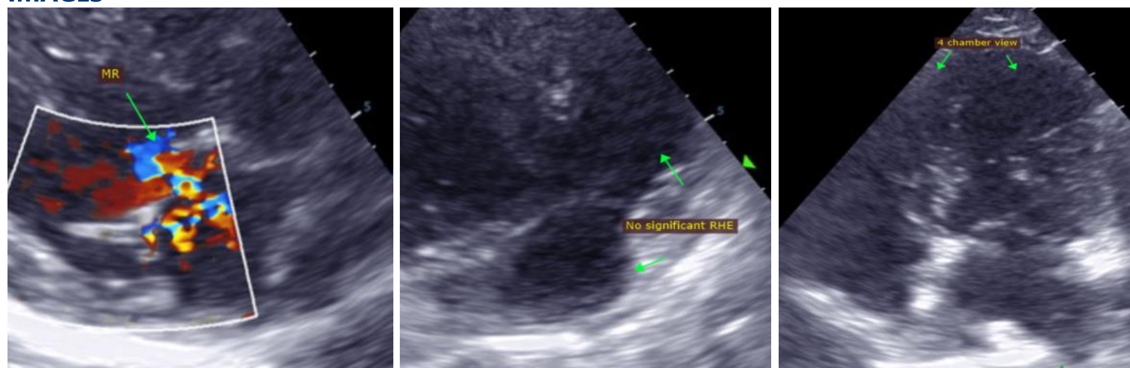
No cardiac contraindication for general anesthesia pending a normal response. If the response is abnormal, referral is advised, and anesthesia is high risk.

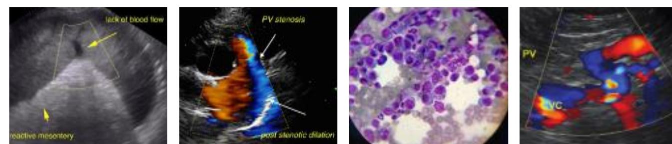
PLAN

Consider an atropine challenge, immediately prior to anesthesia.

A recheck echocardiogram is recommended in 1 year, sooner if signs of pulmonary hypertension arise.

IMAGES





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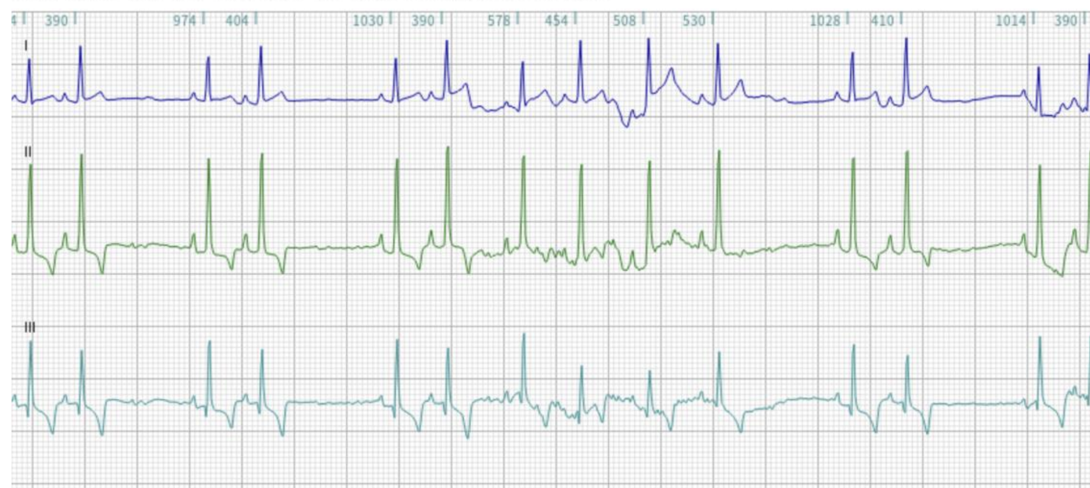

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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