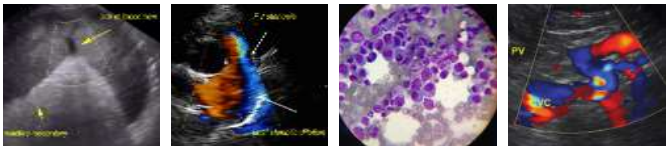
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Ellie Brooks

SPECIES
Canine

BREED
Boerboel

SEX
Female Spay

AGE
8

WEIGHT
52 kg

INTERPRETED BY
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY
Dr. Belan

HOSPITAL NAME
McKnight 24 Hr AH

REFERRING VET
Dr. Gruffydd

INVOICE
49772

DATE
1-24-22

PRESENTING CLINICAL SIGNS

Had a lateral embercation for a ruptured left cruciate Jan 11 2022. Has a asymmetry to the rib cage and abdominal radiographs show bronchial pattern in left dorsal lobes. Patient has had an intermittent tachycardia since being admitted yesterday HR between 150- 300bpm. Patient is on grain free diet Abnormal PE/Chem/CBC/UA Results: Non done

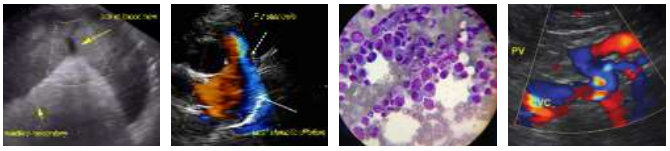
ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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			1.54	1.6	19	47	0.88
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	300	1.3	0.7		5.4	5.2	

Cardiac Presentation

The echocardiogram in this patient demonstrated mild to moderate increased **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis and possible mild MR. The **left ventricle** presented thicknesses with maintained linear contour with possible mild LV enlargement yet without evidence of significant LV enlargement. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was subnormal evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis with possible mild TR. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window. Severe consistent tachyarrhythmia / tachycardia present.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Ellie Brooks

SPECIES

Canine

BREED

Boerboel

SEX

Female Spay

AGE

8

WEIGHT

52 kg

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Dr. Belan

HOSPITAL NAME

McKnight 24 Hr AH

REFERRING VET

Dr. Gruffydd

INVOICE

49772

DATE

1-24-22

ULTRASONOGRAPHIC FINDINGS

- Severe consistent tachycardia / tachyarrhythmia.
- Mild to moderate left atrium enlargement, potential mild LV enlargement.
- LV hypocontractility.
- Possible mild MR/TR.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

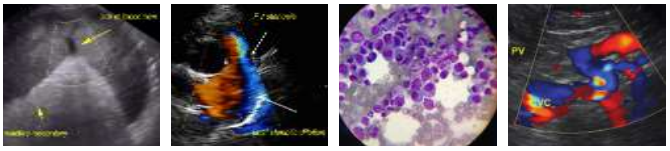
The most striking finding in this study is rapid consistent tachyarrhythmia / tachycardia with heart rate at or around 300bpm. Tachyarrhythmias may be primary in nature or develop secondary to structural heart disease, fibrosis, myocarditis, etc., while the possibility of extra cardiac stimuli such as neoplasia, splenic/GI disease, catecholamine release, etc., could also be considered. The extremely elevated heart rate in this patient may predispose to cardiac chamber enlargement (tachycardia induced cardiomyopathy); however, the true understanding of underlying function/dimensions cannot be commented on until conversion to sinus rhythm is achieved to rule out primary cardiomyopathy versus arrhythmia induced cardiomyopathy. Therefore, the dietary history in this patient remains of unclear clinical significance.

Recommend, ideally, 6-lead ECG for further assessment with strongly recommended cardiology ECG consult. Hospitalization with IV rhythm conversion in addition to ECG assessment is recommended. Pending ECG analysis, anti-arrhythmogenic medications such as Sotalol, diltiazem, or similar is likely indicated.

Assuming that no evidence of third spacing free fluid is present within the abdominal or thoracic cavity, additional cardiac medications are not specifically indicated at this time pending ECG analysis.

Sustained tachycardia in this patient may lead to lethargy, collapse, or potential sudden death which should be expressed to the owner. Referral to a cardiologist is likely ideal given the scenario.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Ellie Brooks

SPECIES

Canine

BREED

Boerboel

SEX

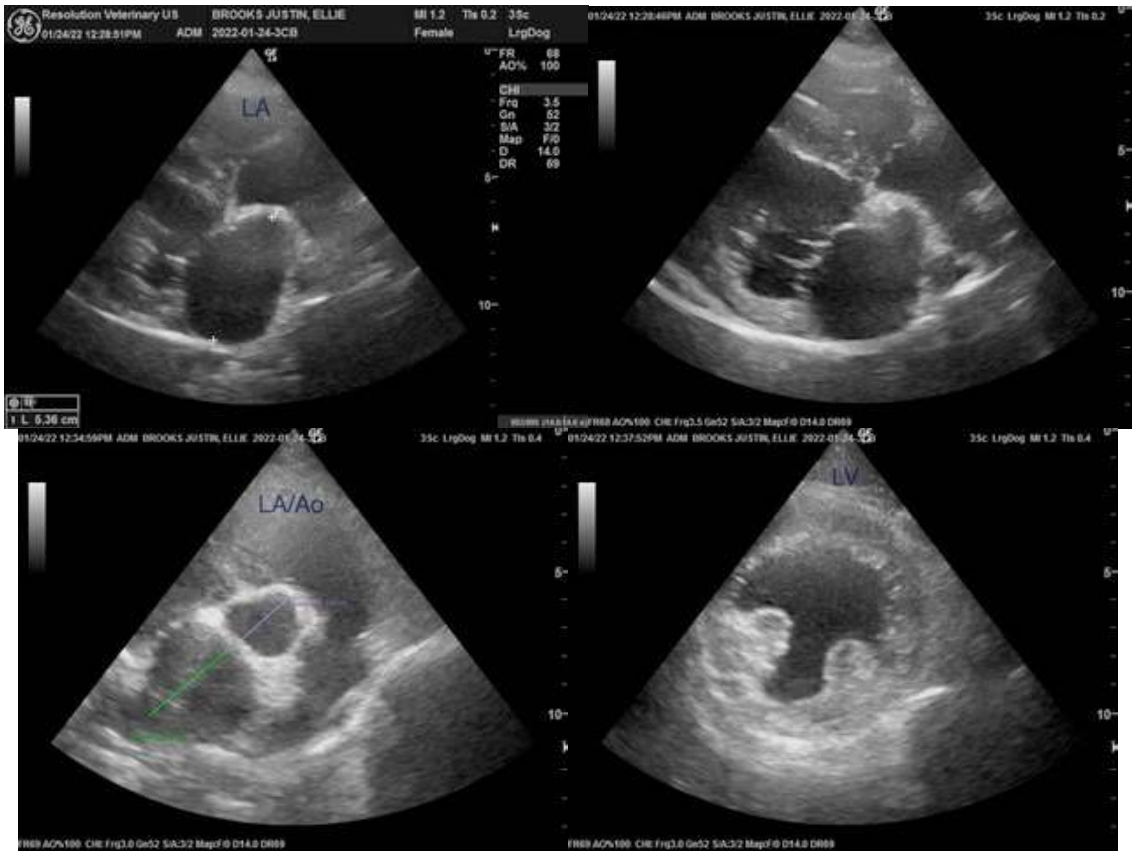
Female Spay

AGE

8

WEIGHT

52 kg



INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Dr. Belan

HOSPITAL NAME

McKnight 24 Hr AH

REFERRING VET

Dr. Gruffydd

INVOICE

49772

DATE

1-24-22

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com