SonoPath
Clinical Sonography & Telecytology
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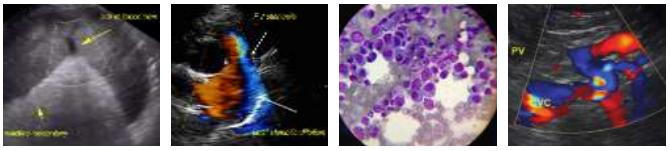

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Neely O'Brien

SPECIES
Canine

BREED
Min. Schnauzer

SEX
MN

AGE
10

WEIGHT
18.6 lbs

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

IMAGING PERFORMED BY
Kim Liedberg

HOSPITAL NAME
SVS Imaging

REFERRING VET
Genoa Animal Hospital

INVOICE
47056

DATE
8-20-21

PRESENTING CLINICAL SIGNS

Presented in 2/21 with lumps on skin. 5/21 recheck exam for breathing heavy. noted 1/6 heart murmur. 8/11 pre dental and lump removal exam and not 3/6 heart murmur. Doctor would like to know if patient is healthy enough for anesthesia.

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	5.2	1.9	--	1.68	36.7	70	0.29
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	112	1.3	0.84		3.1	3.0	

Cardiac Presentation

The echocardiogram in this patient demonstrated a mildly enlarged **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented thicknesses with linear contour with subtle subjective increase left ventricle volume. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. Color Doppler assessment revealed minor tricuspid valve insufficiency. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

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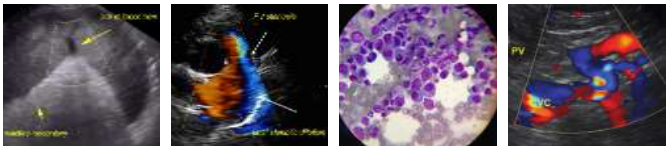

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ULTRASONOGRAPHIC FINDINGS

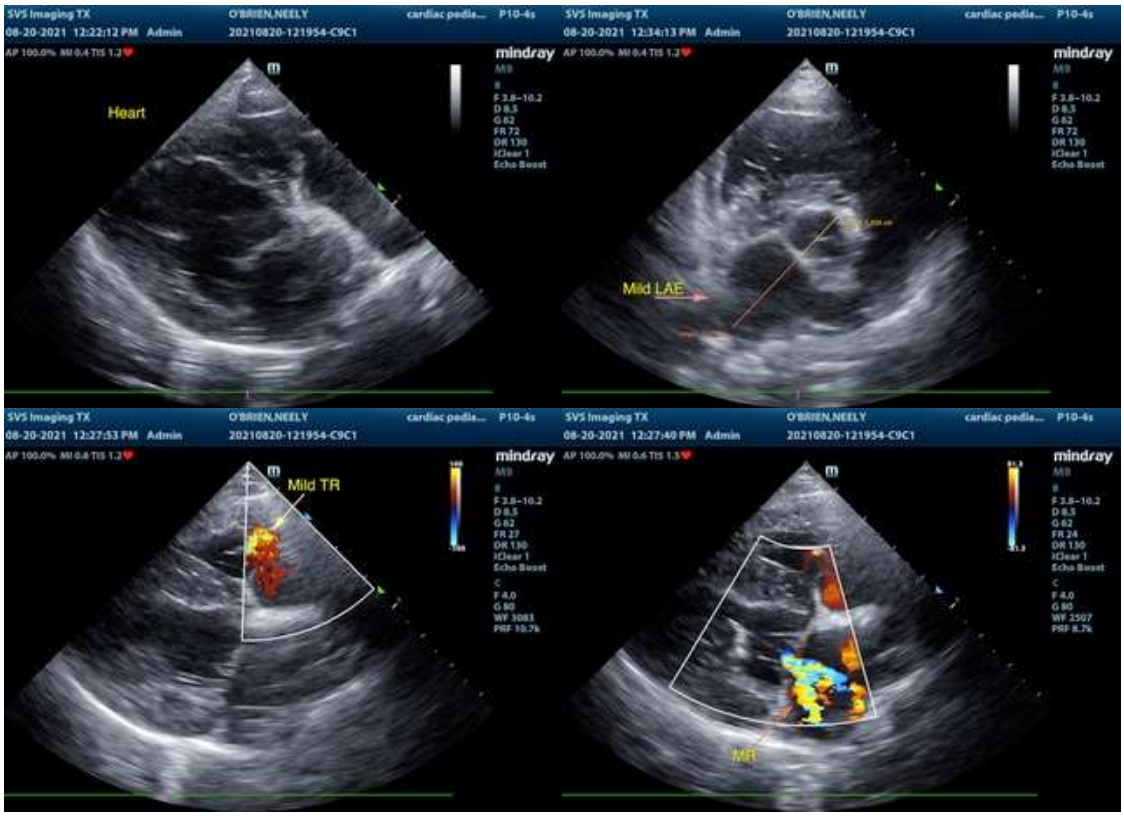
- Chronic mitral valve disease (ACVIM early b2)
- Minor tricuspid valve insufficiency.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The hemodynamic effects of the mitral valve insufficiency appear to be mild without evidence of significant left atrium enlargement or left ventricle increased volume. Given the absence of more significant cardiac remodeling, the mitral valve insufficiency appears to be compensated at this time with relatively low chance of clinical signs, although prognosis at this stage is highly variable. No specific therapy is recommended at this stage of disease. No anesthetic contraindications. Potentially, this patient may be at minor risk for fluid overload. No other clinical issues such as systolic disfunction or clinical pulmonary hypertension were present. Recheck echocardiogram suggested in 6 months or sooner if clinical signs consistent with heart disease develop.

The following anesthetic protocol is suggested.

Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.



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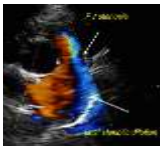
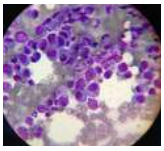
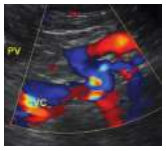

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. 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