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Clinical Sonography & Telecytology
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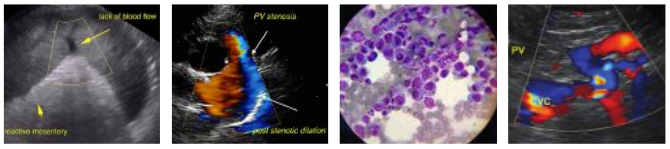

PATIENT

Nicholas Beals

SPECIES

Feline

BREED

DSH

SEX

MN

AGE

16 years old

WEIGHT

12.5 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr Rauch, Best Friends Animal Hosp

INVOICE

14492

DATE

8/3/22

PRESENTING CLINICAL SIGNS

This is a base line echo. 2-3/6 systolic heart murmur heard on both sides. BP good. He is in chronic renal failure.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		209	0.49	1.4	0.5	41.4	75.7
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE** (Sisson)	**LA** 2D 4-chamber long axis AS to FW (Sisson) (cm)		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7		<1.6	<1.3	40-60
PATIENT		1.3	1.5		1.0	1.6	NM
Adapted from June Boon,Veterinary Echocardiography,1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size and structure. Chamber volume and blood echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented minor irregular age-related changes that are not clinically significant at this time with adequate extension in systole and union in diastole. No overt systolic anterior motion (SAM) of the mitral valve. Potential minor MR was noted on doppler. The **left ventricle** presented normal free wall and septal thicknesses with linear contour. The **myocardium** presented some echogenic remodeling consistent with expected age-related change. **Contractility** of the ventricular walls was adequate and in normal range for this breed and patient size. The **left ventricular outflow** tract demonstrated mildly dynamic to turbulent flow with subjective unremarkable structure. Subjective assessment of the **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated expected findings for this age patient. The **right ventricle** was of normal size (1/3 diameter of LV), echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, mildly dynamic to turbulent flow with normal diameter (approx.1:1 pa/ao ratio). No dilation due to cuor pulmonale, stenosis, or pulmonic hypertension was noted. No visible **pericardial** or free pleural fluid was noted. The **mediastinum** was free of masses in the visible window.

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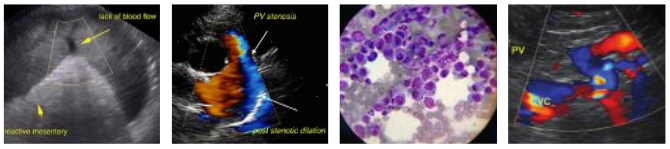

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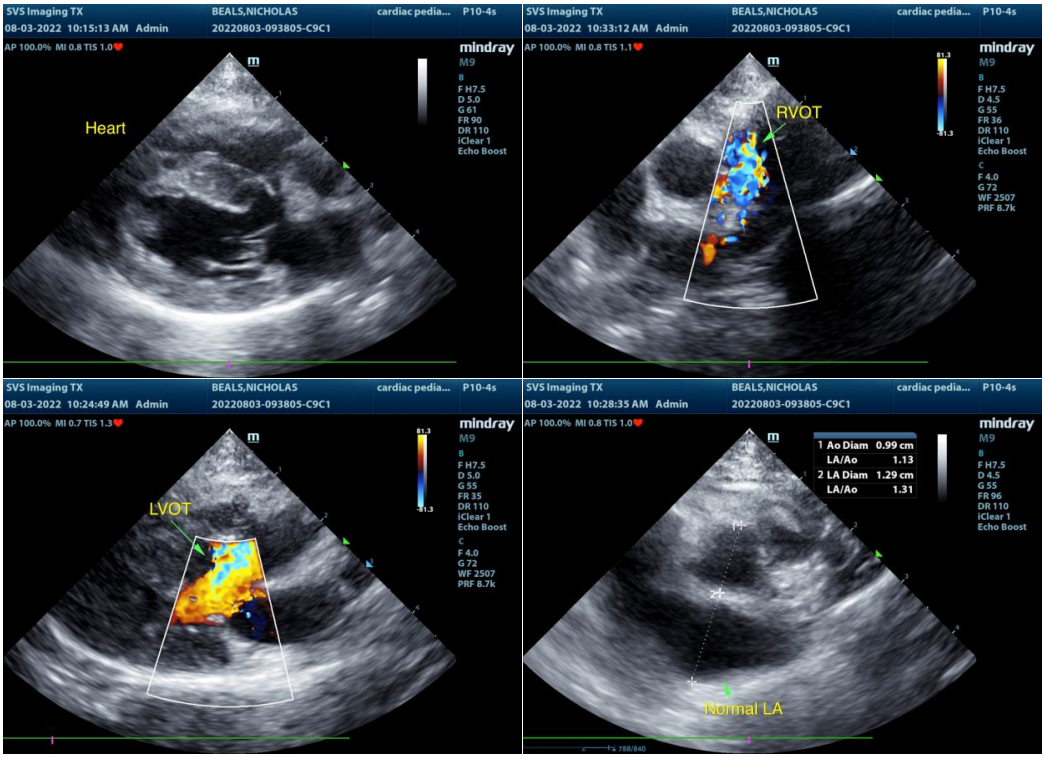
ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function with mild LV myocardial remodeling associated with age
- Subjective mild dynamic to turbulent LV / RV outflow, normal velocities
- Probable mild MR

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No overt evidence of significant structural or functional cardiomyopathy with mild age-related LV myocardial remodeling. No clinical issues such as LV systolic dysfunction, left or right heart chamber enlargement, or HCM criteria were noted. Assuming no evidence of volume changes i.e., dehydration or anemia, a benign physiologic flow murmur potentially associated with mildly dynamic to turbulent LV and RV outflow or other small flow abnormality is a possible cause of the heart murmur.

Regardless, the hemodynamic effects of the heart murmur appear to be low, given the lack of left or right heart chamber enlargement. No indication for cardiac medications. Continued conservative monitoring of the murmur at this stage would be appropriate. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs arise or if murmur intensity Increases.



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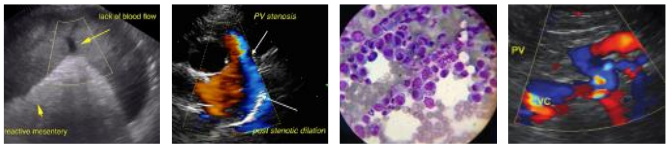

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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