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Clinical Sonography & Telecytology
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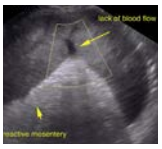
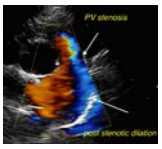
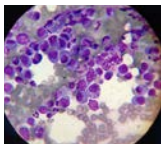
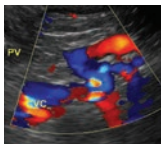

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1-800-838-4268 info@sonopath.com

PATIENT

Izzy Schulte

SPECIES

Feline

BREED

DMH

SEX

Female

AGE

10 Years

WEIGHT

8.46 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Gromalak

HOSPITAL NAME

SVS Imaging

REFERRING VET

Dr. Schnuelle

INVOICE

24795

DATE

8/19/21

PRESENTING CLINICAL SIGNS

Patient was diagnosed with a 4-5/6 heart murmur as kitten. No current symptoms. At times, maybe 3 times a year will cough for 20 seconds. Owner would like to spay cat and is wondering if ok for anesthesia.

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		134	0.33	2.1	0.32	45.7	80.5

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	NM	1.68	1.4	1.0	0.95	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 mildly enlarged **left atrial** size based on 2 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal thicknesses with primarily maintained linear contour and mildly increased left ventricular 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 and angles of the myocardium. The **left ventricular outflow** tract demonstrated subjective normal laminar flow. Turbulence was noted in the area of the left ventricular outflow tract, consistent with a left or right membranous to perimembranous ventricular septal defect. The ventricular septal defect was subjectively mild to moderately hemodynamic, measuring 4.8 m/sec. 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 and kinetics. The **right ventricle** exhibited mild subjective enlargement compared to the left ventricle with normal chordae structure, myocardial echogenicity and overall normal 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 or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

- Ventricular septal defect – likely membranous/perimembranous
- Mild left atrial enlargement and increased left ventricular volume with normal systolic function
- Subjective mildly enlarged left ventricle

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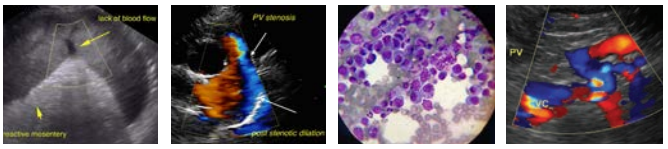

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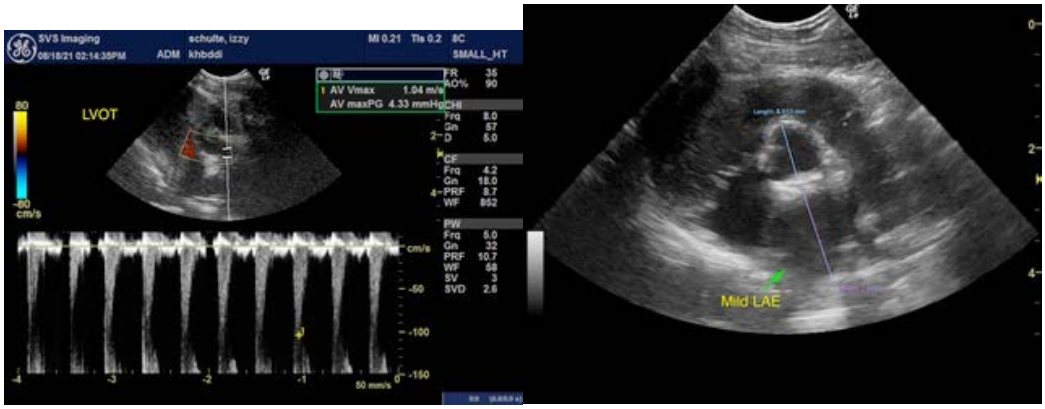
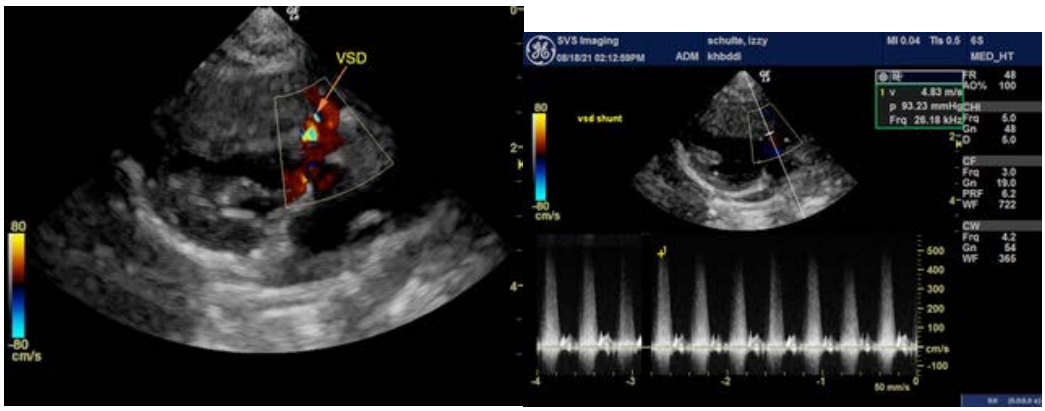
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is consistent with a membranous to perimembranous ventricular septal defect. No other evidence of additional shunting, stenotic disease, or systolic dysfunction noted. The chronicity of the ventricular septal defect has appeared to result in mild left ventricle enlargement and mild yet likely compensated left atrial enlargement and increased left ventricular volume. Given the lack of significant left or right heart volume overload or evidence of clinical pulmonary hypertension, the coughing in this patient is likely non-cardiogenic in origin. However, the increased left atrial and left ventricle size indicate that the risk of future complication is elevated.

Serial sonographic monitoring is required for further assessment and prognosis. Serial monitoring of CBC to assess for evidence of polycythemia recommended. Anesthetic risk is considered somewhat elevated, yet no overt contraindications to anesthesia given the overall appearance of the heart. Avoidance of Dexdomitor and Ketamine recommended with judicious IV fluid use. Consultation with an anesthesiologist or cardiologist may be considered prior to anesthesia.





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