



PATIENT

Popcorn McGraw

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

11 years

WEIGHT

8 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Meredith Swart

HOSPITAL NAME

Swart Veterinary
Imaging

REFERRING VET

Dr. Meredith Swart

INVOICE

13046

DATE

1/12/22

PRESENTING CLINICAL SIGNS

Newly diagnosed mass/lesion in patient's mouth that is requiring dental surgery. Patient was found to have a grade II heart murmur and stage II CKD at time of oral lesion finding. rDVM elected echo prior to dental surgery which is scheduled for tomorrow as lesion in mouth is growing quickly. Patient is having clinical signs associated with oral lesion but none related to heart or kidneys. Abnormal PE/Chem/CBC/UA Results: creatinine 2.0 (I cannot remember BUN but was slightly elevated as well). BNP was mildly elevated as well.

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		NM	0.53	1.82	0.47	33.3	65.6
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		1.34	1.43		1.0	0.8	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 enlarged **left atrial** size based on 3 separate LA measurements. No evidence was noted of spontaneous contrast in the left atrium. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. No overt Insufficiency was noted on color doppler assessment. No overt evidence of systolic anterior motion (SAM) of the mitral valve was obvious. The **left ventricular** septum and free wall revealed adequate yet mild subjective decreased contractility with normal left ventricular volume, yet some echogenic remodeling of the septum and free wall noted. Focal area of basilar septal hypertrophy in the area of LV outflow tract was present. Mildly prominent papillary muscles with some evidence of remodeling was present in the LV lumen. This is most suggestive of some level of probable **myocardial fibrosis**, which is a potential age-related change. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed increased size and normal content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. 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



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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

Primary Findings

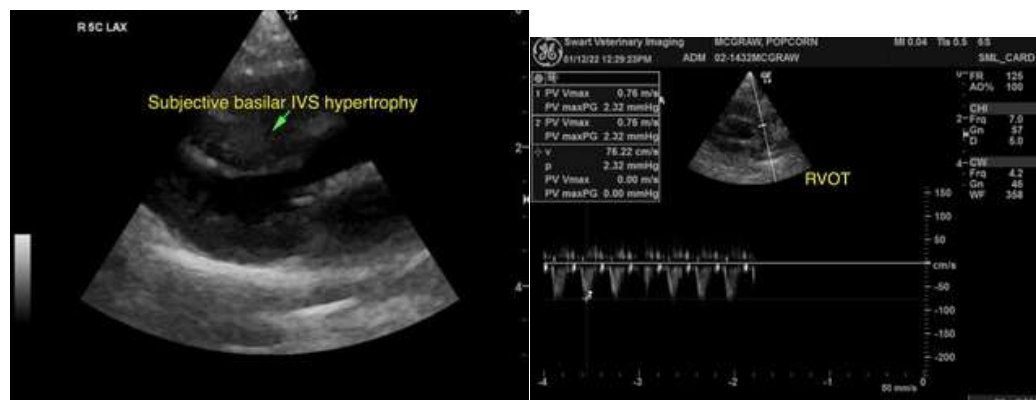
- LV myocardial remodeling with subjective focal basilar IVS hypertrophy
- Adequate yet mid subnormal LV systolic function
- Normal left atrium

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cardiac presentation in this patient may indicate age-related LV myocardial changes, although potential for emerging unclassified cardiomyopathy or burnout / end stage HCM may also present in a similar sonographic manner. Given the fact that the patient is not exhibiting clinical signs, as well as normal left atrium, the heart appears to be compensated at this time. No overt indication for cardiac medications was evident.

The murmur in this patient is suspected to be a benign flow murmur potentially owing to subjective basilar IVS hypertrophy, which may be resulting in mild dynamic LVOT obstruction. However, this is not definitive, yet no evidence of significant valvular Insufficiencies or other definitive cause of the murmur was evident. Anesthetic risk in this patient may be considered mildly elevated. This patient may be at increased risk for fluid overload under anesthesia, therefore judicious IV fluid use is advised. Screening blood pressure prior to anesthesia is recommended. Serial sonographic monitoring is suggested to assess for progressive LV changes or systolic dysfunction. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs suggestive of heart disease arise.

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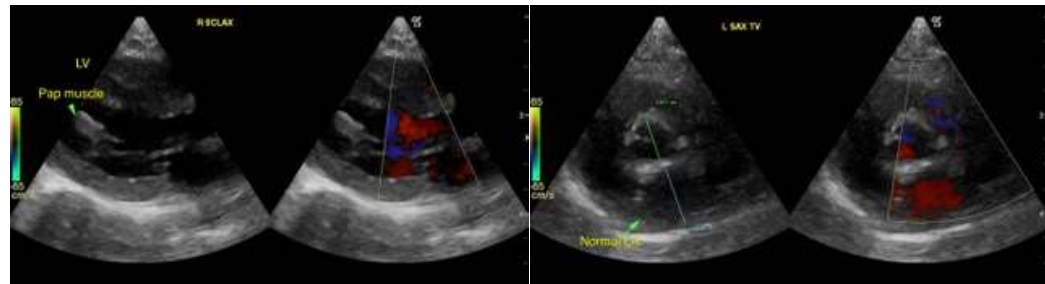
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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