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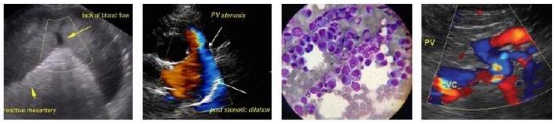

THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Victor Haciahmetoglu

SPECIES

Feline

BREED

DLH

SEX

MN

AGE

7 years

WEIGHT

5.1 kg

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Beatties PH Stoney Creek

REFERRING VET

Dr. Salib

INVOICE

13766

DATE

4/29/22

PRESENTING CLINICAL SIGNS

Presented to emergency clinic for lethargy, vomiting, and inappetance for 3 days on 04/25 and was sent home with medications and SQ fluids Presented to sister clinic on 04/26 and 04/27 for still not eating and lethargic, then transferred to our clinic 04/27 Moderate dehydration on exam, otherwise NSF. No heart murmur noted.Metronidazole 12.5mg/kg, Cerenia 1mg/kg, Ampicillin 22mg/kg, Buprenorphine 0.02mg/kg given. Abnormal PE/Chem/CBC/UA Results: WBC 20.48 x 10^9/L NEUT 16.85 PLT 56 PCT 0.10 GLU 9.09 UREA 20.6 Cl 107 FPLi - abnormal These results are from 04/25 Rads: FINDINGS: The cardiac silhouette is poorly defined due to to pleural space pathology. There is increased soft tissue within the pleural space bilaterally, worse on the right causing retraction of the pulmonary parenchyma from the pleural periphery. There is a moderate generalized bronchial pulmonary pattern with multifocal arborizing mineral opacities within the lungs worse in the cranial lobes. The pulmonary vessels are ill-defined but appear mildly tortuous in some regions. The stomach contains fluid and minimal gas. The small intestines and colon are normal. The renal silhouettes are normal. The urinary bladder is normal. There are no significant musculoskeletal abnormalities. CONCLUSIONS: Moderate pleural effusion, worse on the right with secondary pulmonary atelectasis. Mild pulmonary vascular distention. This may be secondary to fluid overload, congestive heart failure, and/or hypertension. Moderate generalized bronchial pattern and arborizing pulmonary mineralization. Chronic underlying airway inflammation is considered such as with feline asthma. The mineralization may be associated with the smaller airways such as with chronic bronchitis, however vascular mineralization such as secondary to pulmonary hypertension cannot be excluded. RECOMMENDATIONS: Sampling of the pleural fluid is recommended for cytology. Echocardiography would be useful to evaluate the heart for evidence of hypertension or significant structural disease. Heartworm testing is recommended. Oxygen therapy would likely be beneficial. When the patient is stabile, lower airway sampling with intubation could be considered to further evaluate the respiratory tract if there is concern for lower airway disease. Please see attached rads 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		208	0.59	1.44	0.60	47	82
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		1.2	1.3		1.2	1.1	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

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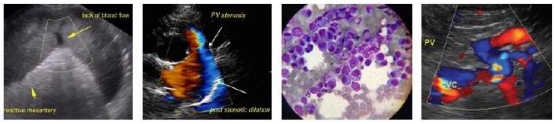

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Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented borderline Increased thickness with a maintained linear contour that was not dilated nor restricted. 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 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 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). Mild volume free pleural fluid was noted without evidence of concurrent free pericardial fluid. The cranial **mediastinum and pericardial regions** were free of overt or visualized masses in the visible window. No evidence of cardiac tumors was noted.

ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function
- Borderline LV hypertrophy
- Normal left atrium
- Mild volume pleural effusion

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, no evidence of significant structural or functional cardiomyopathy that would allude to cardiogenic pleural effusion was noted. The borderline LV hypertrophy In this patient is nonspecific and may indicate primary emerging HCM, yet may also be secondary to dehydration, systemic hypertension, or normal patient variant. Regardless, the lack of left or right heart chamber enlargement was not consistent with cardiogenic pleural effusion. Noncardiogenic causes of pleural effusion, i.e., inflammation, infection, neoplasia, or other, are probable.

No Indication for cardiac medications was evident. Assessment of T4 levels and systemic BP is suggested to rule out potential complicating factors that may result in borderline LV hypertrophy. Effusion analysis cytology +/- culture and sensitivity for further assessment are suggested.

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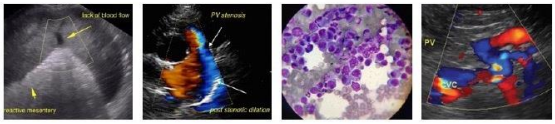

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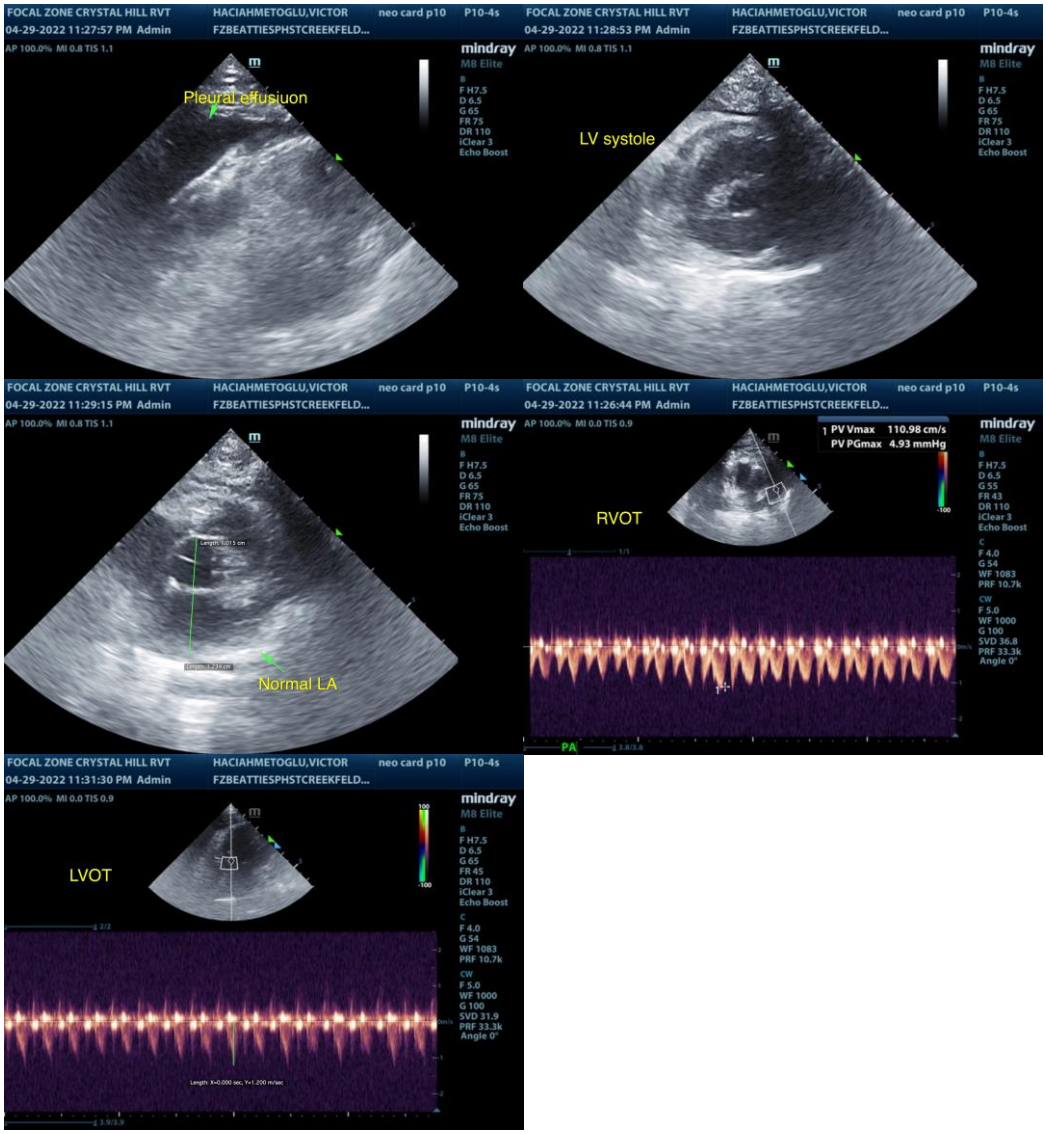

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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