



## PATIENT

Fanta Federico

## SPECIES

Feline

## BREED

DSH

## SEX

Neutered Male

## AGE

2 Years

## WEIGHT

15.7 Pounds

## PRESENTING CLINICAL SIGNS

History: new grade 2/6 murmur- sternal; abnormal BNP

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
<b>NORMAL PARAMETER</b>	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
<b>PATIENT</b>	--	NM	0.36	2.1	0.33	35	68
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/)	
<b>NORMAL PARAMETER</b>	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
<b>PATIENT</b>	1.44	1.46	--	--	1.20	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 based on 3 separate LA measurements. Mitral insufficiency was noted, measuring 6.0 m/s. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. Minor myocardial remodeling was noted. **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). 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

- Idiopathic mitral insufficiency
- Minor myocardial remodeling
- Structurally unremarkable heart otherwise

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This may be a minor form of hypertrophic cardiomyopathy phenotype, even though the left ventricle is measurably normal. No specific therapy is warranted at this time unless resting heart rate is >200,

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Diane McFadden

## HOSPITAL NAME

Animal Hospital of  
Roxbury

## REFERRING VET

Dr. Hickenbottom

## INVOICE

23337

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then atenolol therapy (6.25 mg – 12.5 mg SID to BID with target heart rate <200) could be considered. However, it's debatable on whether any treatment is recommended at this time if no clinical signs are present.

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Bio markers such as NT-proBNP are screening tests for myocardial stress. A positive test (>100 pmol/liter) does not mean that cardiac disease is necessarily present.

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BNP false +can occur in hyperthyroid, renal insufficiency, severe airway disease, systemic hypertension and potentially other systemic influences.

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A negative result largely rules out clinically relevant myocardial disease but does not rule out occult cardiomyopathy.

In light of pleural effusion, diluting the fluid 1:1 and testing BNP on the fluid is useful to assess if the pleural effusion is cardiogenic in nature.

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Ultrasound, however, is the gold standard as far as evaluating clinically significant and occult heart disease.

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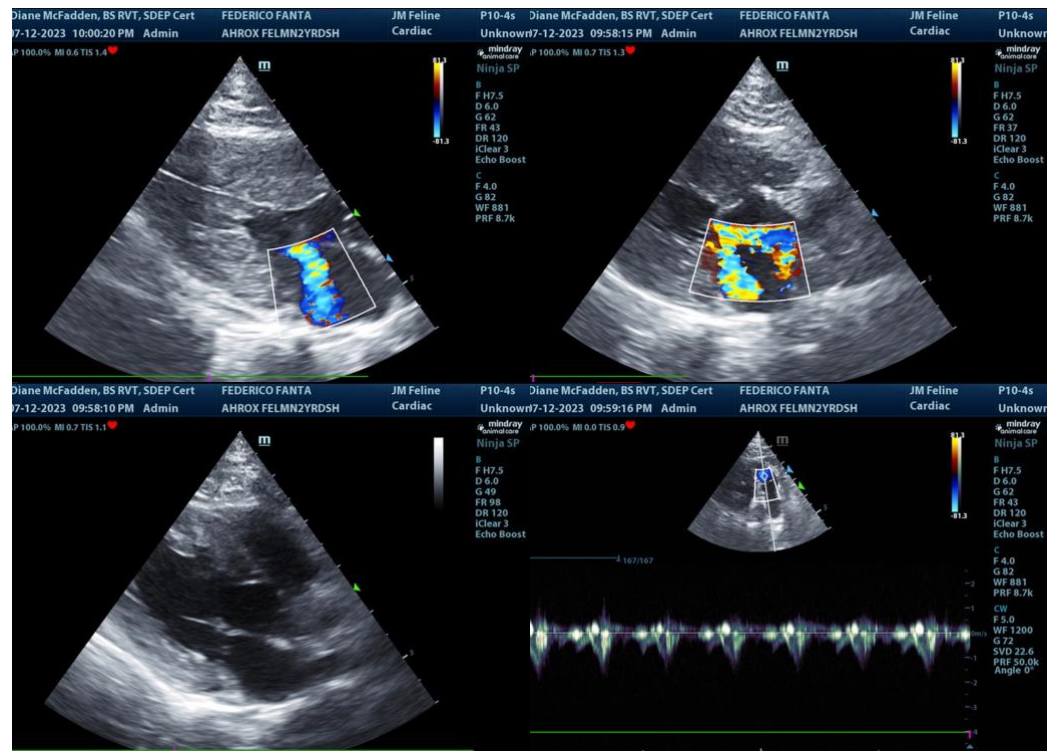
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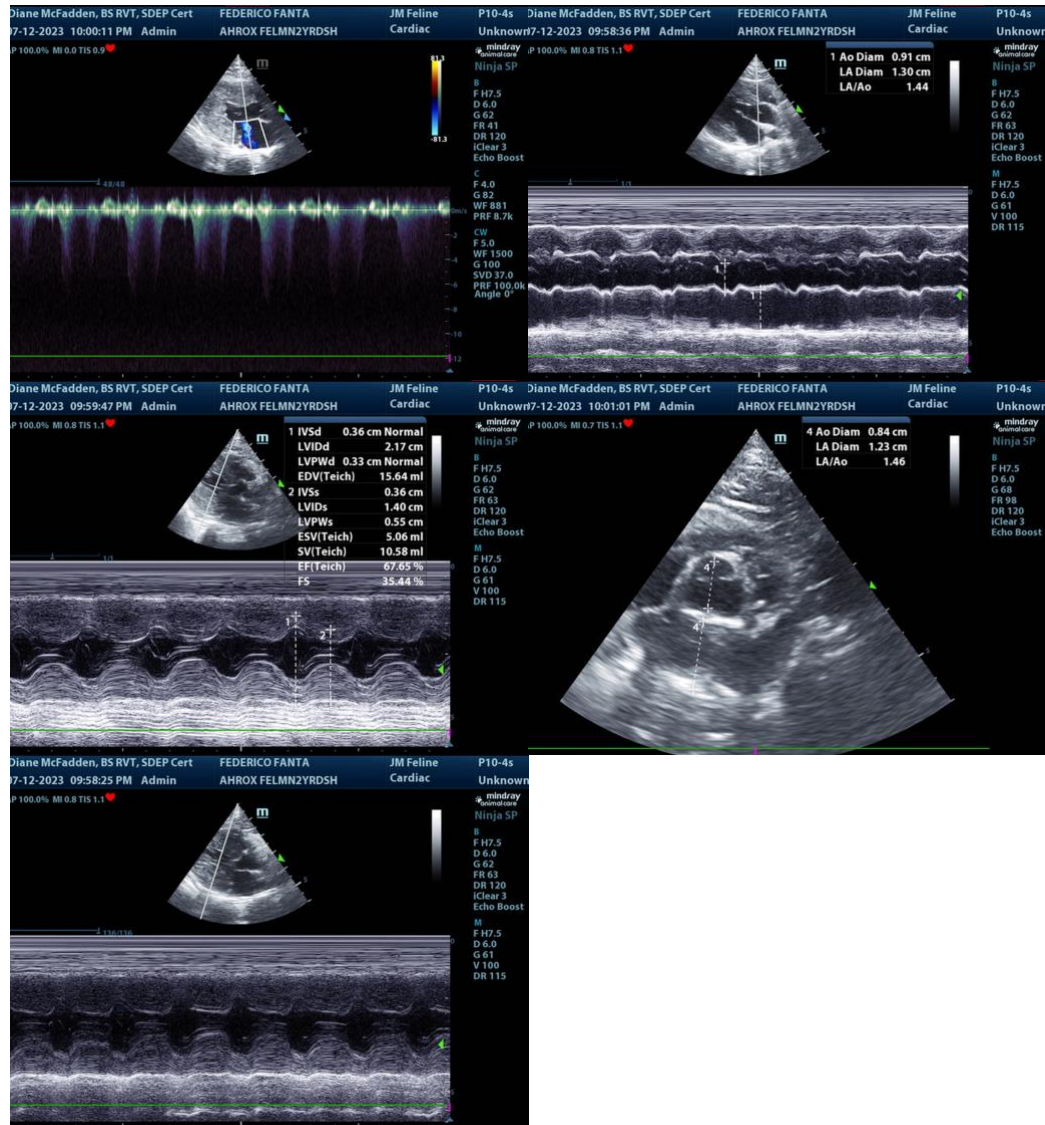
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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