



**PATIENT**

Wednesday Mathur

**PRESENTING CLINICAL SIGNS**

diagnosed with hyperthyroidism Patient seems uncomfortable, constantly meowing and very hungry

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

7.8 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV

DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Jenn

**HOSPITAL NAME**

Rockaway AH

**REFERRING VET**

Dr. Maniar

**INVOICE**

43198

**DATE**

12/5/22

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

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	0.5	1.1	0.5		
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	1.1	1.16				1.5	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 noted, not clinically significant. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. Minor **myocardial** remodeling 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. Tachycardia of 280-300 noted. Occasional arrhythmia noted.

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** presented moderate interstitial nephrosis pattern with cortical infarcts and remodeling. The right kidney measured 3.28 cm. The left kidney measured 3.27 cm. Blood flow to the kidneys appears to be adequate, except in the areas of infarcts.



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**Adrenal Glands**

The **right adrenal gland** was significantly enlarged and mineralized, strongly consistent with carcinoma.

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The **left adrenal gland** was not visualized.

**Spleen**

**BREED**

DSH

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

**SEX**

Spayed Female

**Liver**

The **liver** presented lobar biliary mineralization, non-obstructive. Mild increased portal markings noted. The gallbladder and common bile duct was unremarkable.

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**Gastrointestinal**

The **gastrointestinal tract** revealed minor variable thickening and echogenic submucosal changes most consistent with low grade end result of chronic GI disease such as IBD and may be related to malassimilation of nutrients if any weight loss is present. No obvious neoplastic patterns were noted and luminal content as unremarkable.

**WEIGHT**

7.8 Pounds

**Pancreas**

**INTERPRETED BY**

Eric Lindquist, DMV

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

DABVP, Cert. IVUSS

**ULTRASONOGRAPHIC FINDINGS**

**IMAGING PERFORMED BY**

Jenn

- Tachycardic heart with myocardial remodeling and mitral insufficiency (not clinically significant)
- Renal infarcts
- Enlarged, mineralized right adrenal gland

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Strong suspicion for systemic hypertension. EKG indicated and assessment for hypertension. If systolic blood pressure is >160, anti-hypertensives would be indicated. Concern for carcinoma of the right adrenal gland. CT evaluation warranted for surgical planning. Sodium to potassium ratio should be evaluated, if altered, aldosterone levels would be indicated to assess for Conn's syndrome.

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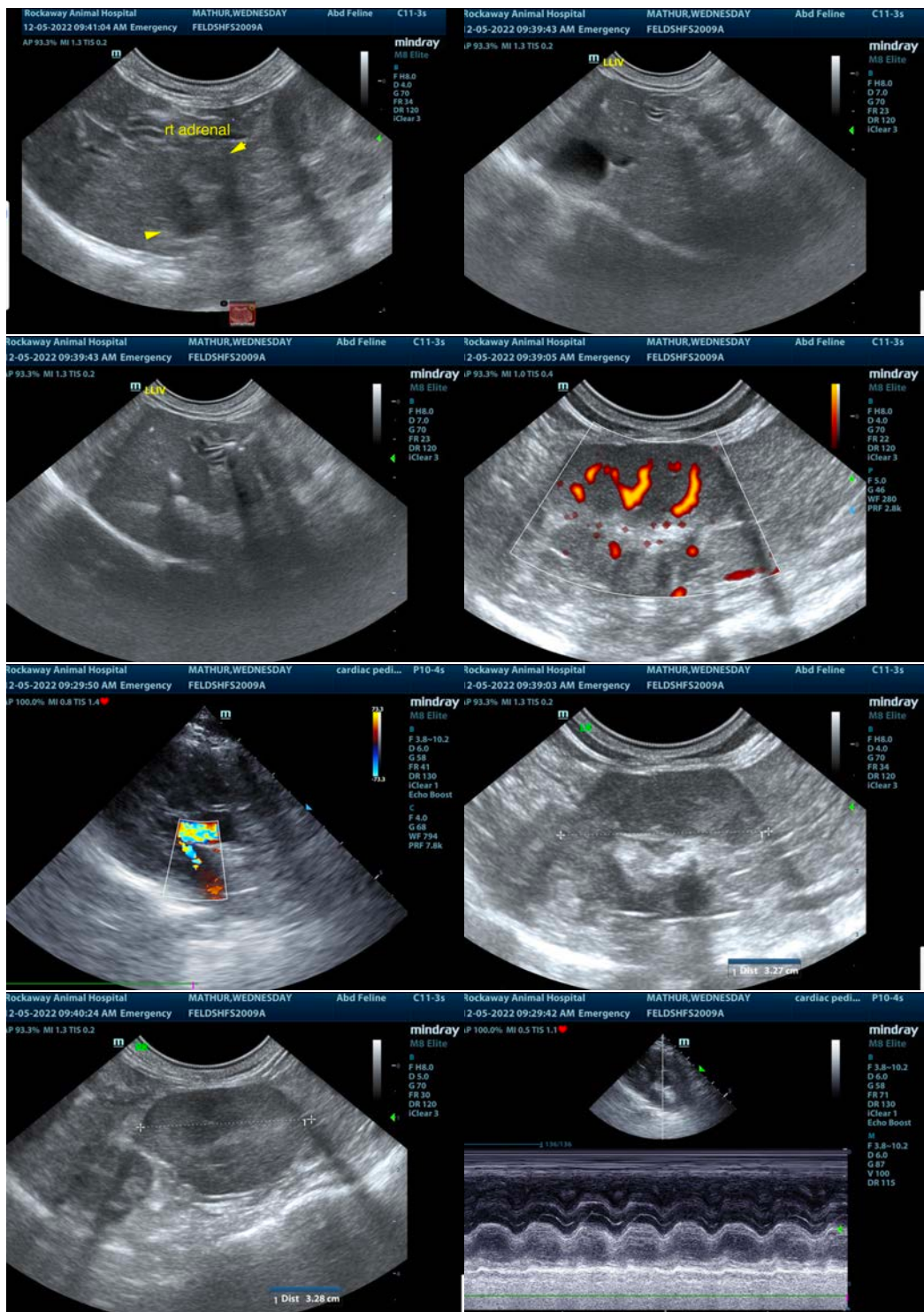
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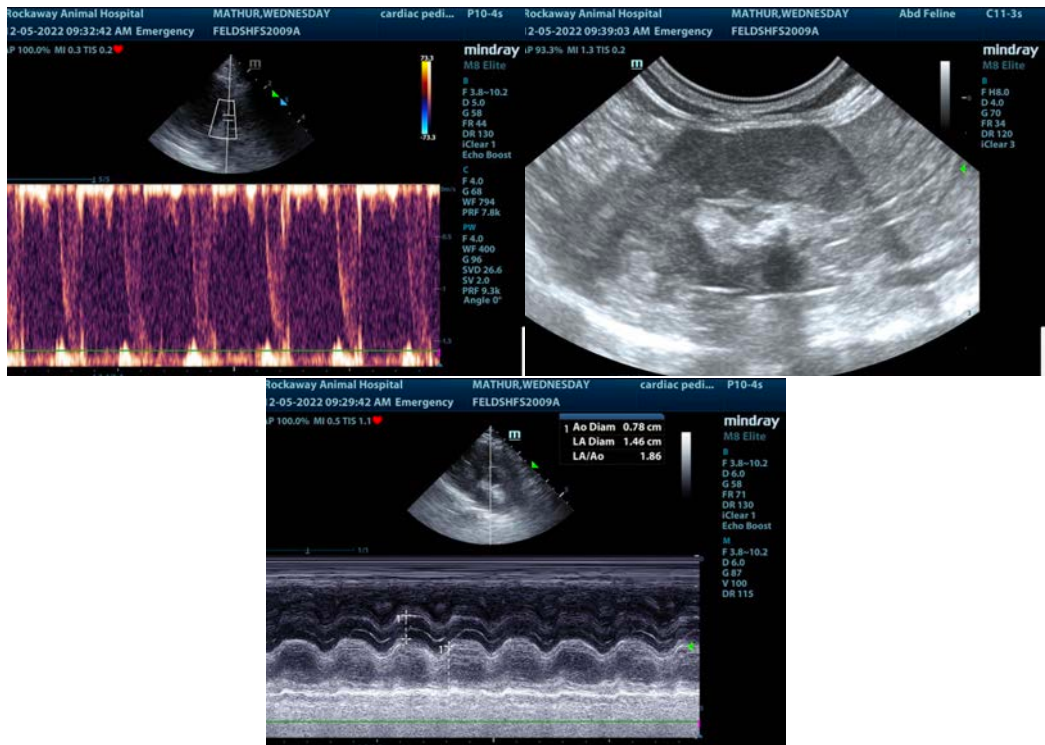
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com**

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