


PATIENT

Tic Tac Coiro

PRESENTING CLINICAL SIGNS

anorexia for 3 days; murmur; weight loss

SPECIES

Feline

Abnormal PE/Chem/CBC/UA Results: BUN 33.2, T4 5.7, neutrophilia 13.4

BREED

DLH

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART
SEX

FS

AGE

16.5yr

WEIGHT

10.4lb

| 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 | 0.52 | 1.3 | 0.56 | 49 | 83 |
| 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 | | 1.4 | 1.7 | 1.1 | 1.0 | | |

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

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Andover AH

REFERRING VET

Dr. Hummel

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01/11/2023

Cardiac Presentation

The echocardiogram in this patient demonstrated enlarged left atrial size based on 3 separate LA measurements. The cranial and caudal mitral valve leaflets presented minor thickening with normal linear structure and kinetics. No overt MR on Doppler. The left ventricular septum and free wall revealed normal thicknesses, adequate contractility and normal left ventricular volume with subjective reduced diastolic filling. Some minor echogenic remodeling of the septum and free wall was present. This is most consistent with some level of LV myocardial fibrosis which is an age related change. The left ventricular outflow tract demonstrated normal laminar flow and subjective structural integrity. Normal measured LVOT velocity. 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. No overt MR present. 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). Normal measured RVOT velocity. 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.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

The right kidney was subnormal in size compared to the left. Bilateral asymmetrical margination was present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices



| | |
|--|---|
| PATIENT | were uniform in texture with some increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Bilateral cortical infarcts and medullary mineral were present. No evidence of pelvic dilation was present. The left kidney measured 4.1 cm in length. The right kidney measured 3.0 cm in length |
| Tic Tac Coiro | |
| SPECIES | The area of the aortic trifurcation was free of pathology. |
| Feline | Adrenal Glands |
| BREED | The right adrenal gland was mildly prominent in size with normal contour. The left adrenal gland was normal in size. Pinpoint areas of mineralization were present without capsular distortion or overt tumors. This is an age-related finding and not pathological. The left adrenal gland measured 0.43 width and the right adrenal gland measured 0.64 width |
| DLH | |
| SEX | Spleen |
| FS | The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted. The spleen measured 0.73 cm in width at the level of the hilus. |
| AGE | |
| 16.5yr | Liver/Gallbladder |
| WEIGHT | The liver was mildly enlarged with normal structure, and contour. Mild generalized increased hepatic parenchyma echogenicity was present with moderate coarse echotexture. A solitary non-disruptive well demarcated hepatic nodule was present. The hepatic and portal vasculature were normal in appearance without signs of congestion. |
| 10.4lb | |
| INTERPRETED BY | The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content with mild non-organized echogenic luminal debris. The proximal common bile duct was mildly dilated and tortuous without overt post hepatic obstruction. The common bile duct measured 0.15 cm width. |
| R. McKenzie Daniel, DVM, DABVP (Canine and Feline) | Gastrointestinal |
| IMAGING PERFORMED BY | The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained minor retained non-shadowing chyme with no signs of ileus, obstruction or foreign material. |
| Diane McFadden | The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material. |
| HOSPITAL NAME | Normal visible colon wall layers were present with apparent formed feces in lumen. |
| Andover AH | Pancreas |
| REFERRING VET | The pancreas exhibited variably prominent size with capsule asymmetry and non-homogenous hypoechoic parenchyma. Mild pancreatic duct dilation was present. |
| Dr. Hummel | Free Abdomen |
| INVOICE | No omental masses, overt lymphadenopathy or peritoneal effusion was present. |
| 12667ag | ULTRASONOGRAPHIC FINDINGS |
| DATE | <ul style="list-style-type: none"> • Overtly normal cardiac structure in light of age/sedation-probable flow murmur • Moderate chronic degenerative kidneys with medullary mineral and cortical infarcts |
| 01/11/2023 | |



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- Pinpoint dystrophic adrenal mineralization with mild prominent right adrenal size-non consistent with overt adrenal pathology, suspect age related changes
- Variably prominent to non-homogeneous hypoechoic pancreas-suggestive of chronic to chronic active pancreatitis
- Overtly normal GI tract
- Mild hepatic parenchyma hyperechogenicity with focal subjective benign nodule-nodule likely focal hyperplasia or lipogranuloma
- Minor gallbladder debris with non-obstructive proximal CBD dilation-age related change, potential for low-grade cholangitis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assessment for cranial abdominal/subxiphoid discomfort on palpation associated with the pancreas is suggested. A GI panel to include PLI/TLI/Cobalamin/Folate is recommended.

Three view chest radiographs are recommended if not done to assess for occult thoracic pathology.

A screening BP is advised given renal and adrenal appearance to assess for evidence of hypertension which may allude to emerging adrenal neoplastic criteria i.e. pheochromocytoma.

Sonographic reassessment of the right adrenal gland may be considered if documented hypertension of hypokalemia.

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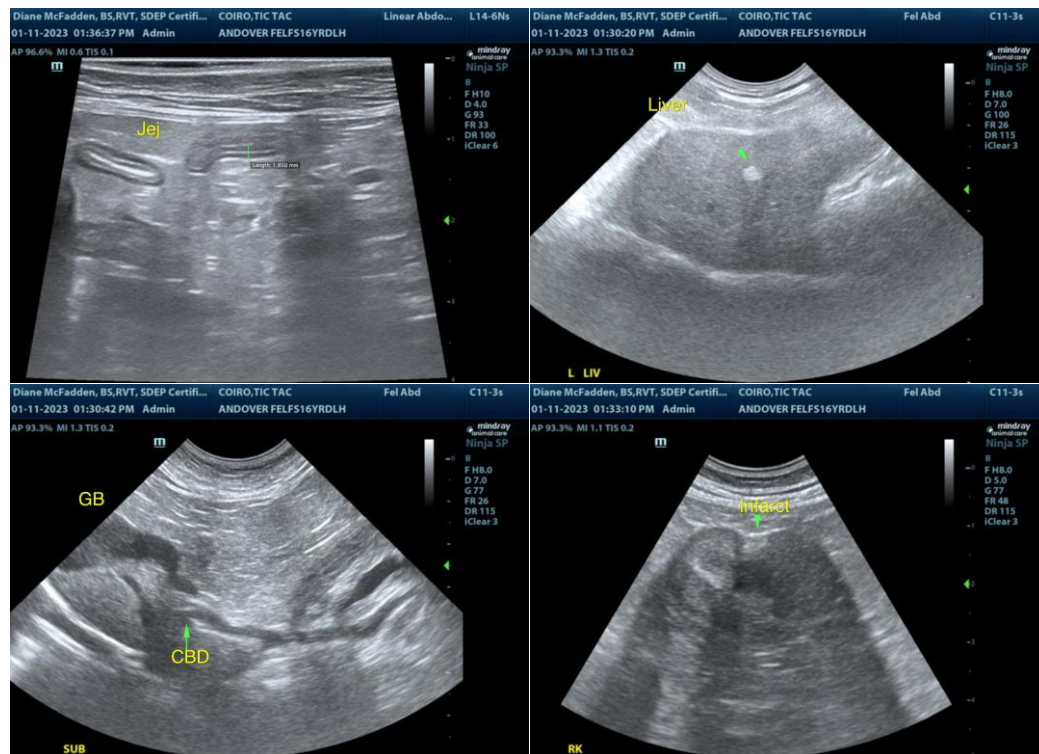
Dr. Hummel

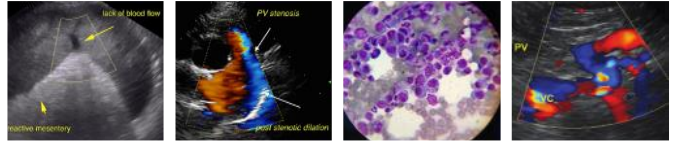
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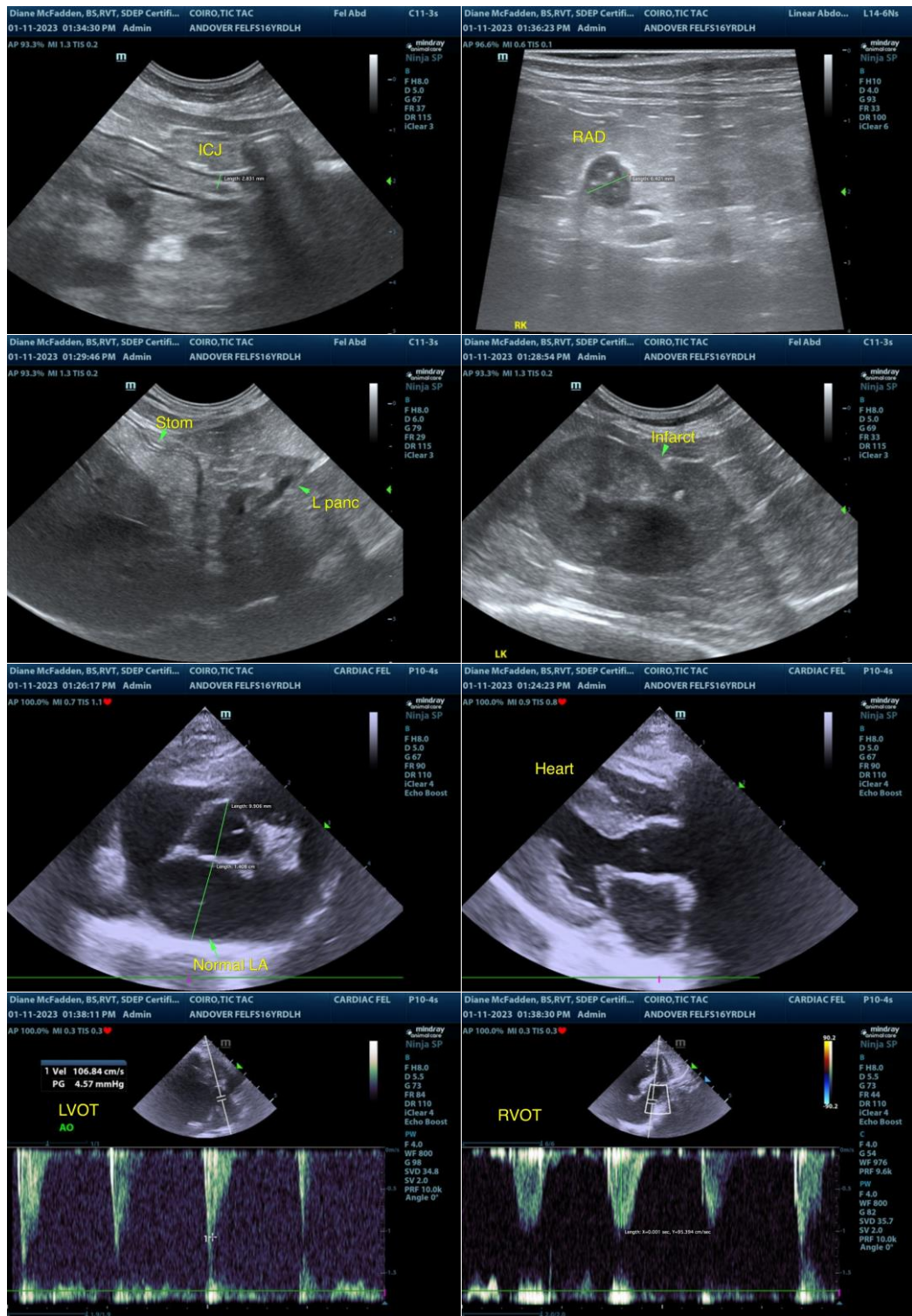
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I



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can be of any further assistance, please contact me.

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