



PATIENT

Chester Heal

SPECIES

Canine

BREED

Golden Retriever

SEX

Male

AGE

10 years

WEIGHT

99.3 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Chun

INVOICE

12278

DATE

9/22/21

PRESENTING CLINICAL SIGNS

-Ascites, hepatomegaly, cardiomegaly, peritoneal effusion on rads. No current meds
Abnormal PE/Chem/CBC/UA Results: BUN 31.4, Crea 1.5, TP 4.5, Albumin 2.4

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT			1.2	1.1	31.1	64.3	0.4
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	107	1.0	0.83		3.9	4.6	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented primarily normal linear structure, extension in systole, and union in diastole with normal kinesis. Color doppler assessment revealed minor mitral valve insufficiency. The **left ventricle** presented thicknesses with linear contour and 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 mild subnormal as evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed overall normal size, structure and content. A small, mildly nonhomogeneous mass lesion noted in the area of the right atrioventricular groove, measuring approximately 2.5 cm in diameter, was present. Collapse of the right atrial free wall during diastole consistent with cardiac tamponade was present. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. Color doppler assessment of the tricuspid valve revealed mild tricuspid valve insufficiency. The **right ventricle** exhibited mild increased size compared to the left ventricle with normal chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). Moderate pericardial and likely concurrent free pleural fluid was noted. The cranial mediastinum was free of overt masses in the visible window.



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Urinary System

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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 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.

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The prostate was enlarged in size with intact, symmetrical capsule contour. The margins of the gland were intact and able to be differentiated from the surrounding tissue. The prostatic parenchyma was mildly echogenic to heteroechoic without parenchymal mineralization. The prostate measured 4.7 cm in diameter.

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The area of the aortic trifurcation was free of pathology.

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Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 7.0 cm in length. The right kidney measured 6.5 cm in length.

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Adrenal Glands

No overt pathology was noted in the area of the left or right adrenal glands.

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Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease. No overt splenic masses or nodules were noted.

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Liver/ Gallbladder

The liver presented enlarged in size with symmetrical yet swollen contour. The parenchyma exhibited moderately coarse to remodeled hepatic parenchyma. Dilation of the cranial abdominal caudal vena cava at the level of the liver and diaphragm was present, measuring 2.1 cm in diameter. No overt thrombosis was present. No distinct hepatic masses or nodules were noted. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

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Gastrointestinal

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The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

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.



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Normal visible colon wall layers were present with apparent formed feces in lumen.

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Pancreas

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The parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.

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Free Abdomen

Golden Retriever

Moderate, subjectively acellular ascites was present. Generalized mild reactive mesentery was noted.

SEX

ULTRASONOGRAPHIC FINDINGS

Male

Primary Findings

AGE

- Pericardial effusion with secondary cardiac tamponade
- Small nonhomogeneous mass lesion in area of right atrioventricular groove
- Congestive hepatopathy with parenchymal remodeling
- Moderate ascites

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Secondary Findings

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- Bilateral chronic renal changes
- Benign prostatic hyperplasia, minor potential for prostatitis

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Unfortunately, the noted small mass lesion in the area of the right atrioventricular groove is strongly suggestive of cardiac neoplasia, specifically hemangiosarcoma, resulting in pericardial effusion, secondary cardiac tamponade, congestive hepatopathy, and bicavitary free fluid. Diagnostic and prophylactic pericardiocentesis may be considered, which may provide some temporary relief. However, pericardial effusion is likely to recur in an unknown timeframe.

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An unfavorable long-term prognosis is indicated, yet further assessment with thoracic CT along with surgical and/or oncology consultation may be considered.

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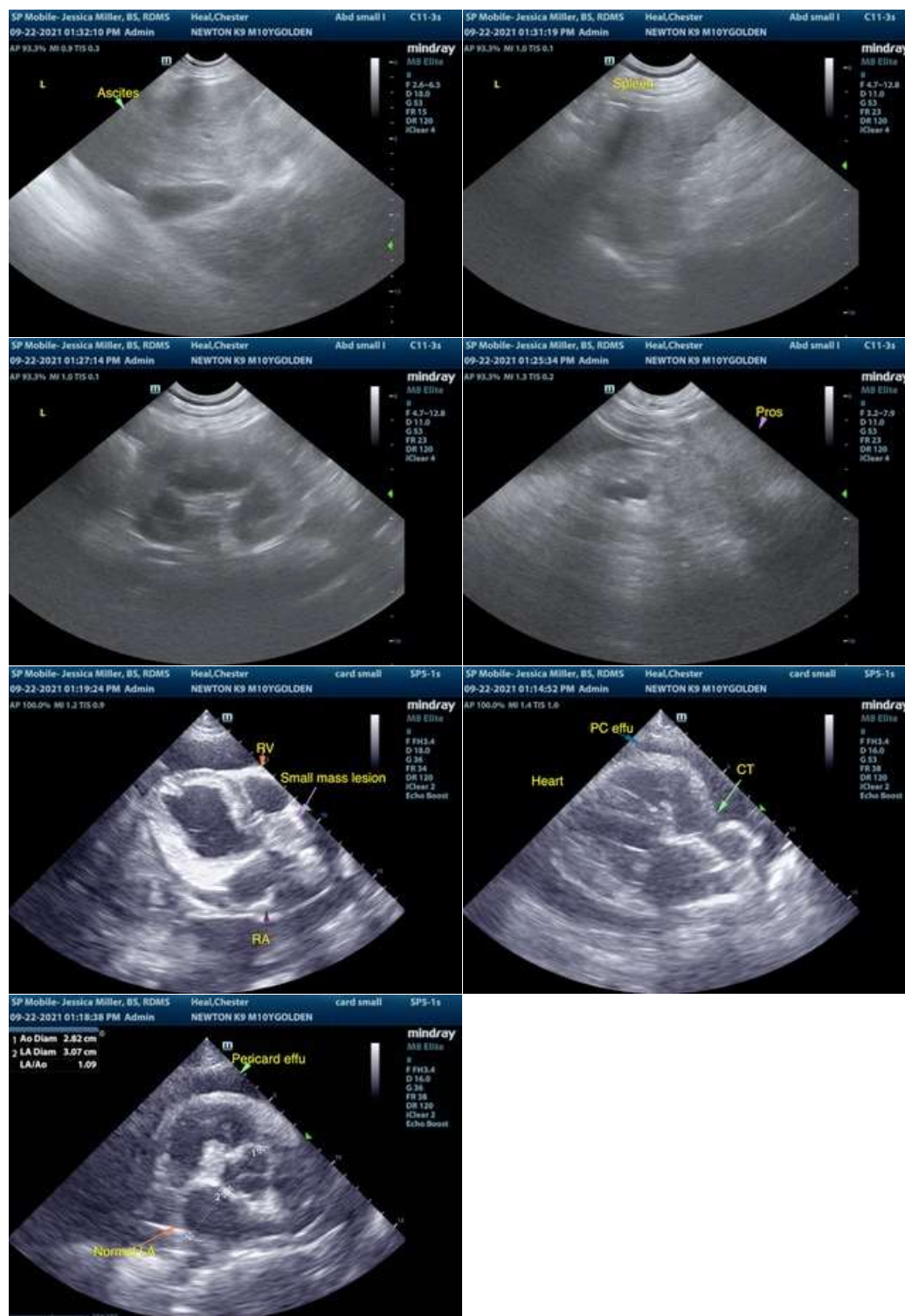
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.



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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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