



## PATIENT

Cooper Howard

## SPECIES

Canine

## BREED

Golden Retriever

## SEX

MN

## AGE

7 years

## WEIGHT

67 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Shari Reffi, CVT

## HOSPITAL NAME

Animal Generali  
(Agusta)

## REFERRING VET

Dr. Castimore

## INVOICE

13100

## DATE

1/19/22

## PRESENTING CLINICAL SIGNS

Survey for metastatic dz. Dx-Hemangiosarcoma , cutaneous mass on 1/6/2022. Previously dx w/MCT on head 5/21/2020. Grade II/VI murmur.

## 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			--	1.1	32	61	0.24
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	117	1.2	1.2		3.6	3.7	

## 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 normal linear structure, extension in systole, and union in diastole with normal kinesis. 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 adequate and in normal range for this patient 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 normal size. Mildly nonhomogeneous to pinpoint hyperechoic mass suspected to be associated with the tricuspid valve and extending into the right atrial lumen was present. The mass measured approximately 5.8 cm x 2.4 cm. Potential extension of the mass into the right ventricle may be possible. Potential subtle evidence of mildly prominent right atrioventricular groove myocardium was noted, although not definitive. Minor TR was present on color doppler assessment. The **right ventricle** was of normal size compared to the left. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of overt or concurrent 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 5.0 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 was noted.

The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 1.1 cm in diameter.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 6.5 cm in length. The right kidney measured 7.6 cm in length.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.42 cm width at the caudal pole and 0.52 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.68 cm width at the caudal pole.

**Spleen**

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.

**Liver/ Gallbladder**

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. No evidence of hepatic vasculature congestion was noted. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. No evidence of gallbladder wall edema was noted. The cystic and common bile ducts were normal.

**Gastrointestinal**

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.

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**

**BREED**

Golden Retriever

Focal mildly prominent to hypoechoic Inguinal lymph node noted caudodorsal to the urethra, measuring approximately 1.4 cm in diameter, was present. No evidence of omental masses, lymphadenopathy, or peritoneal effusion.

**SEX**

**ULTRASONOGRAPHIC FINDINGS**

MN

**Primary Findings**

**AGE**

7 years

- Nonhomogeneous to pinpoint hyperechoic mass lesion in the area of the tricuspid valve extending into the right atrium
- Minor TR
- Focal inguinal lymphadenopathy
- Overtly normal abdomen - no evidence of hepatic congestion

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the patient's history, the mass lesion associated with the tricuspid valve and within the right atrial lumen is highly suspicious for metastatic disease such as hemangiosarcoma. The potential for other primary neoplastic processes is possible. Thrombus potential endocarditis is considered a less likely differential diagnosis. Referral for further assessment and potential for oncology consultation could be considered.

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No overt evidence of intraabdominal metastasis was noted. The focal inguinal lymph node, however, may suggest regional lymphatic metastasis depending on the location of previously noted cutaneous hemangiosarcoma or mast cell tumor. Ultrasound guided FNA of the inguinal lymph node is warranted for screening cytology.

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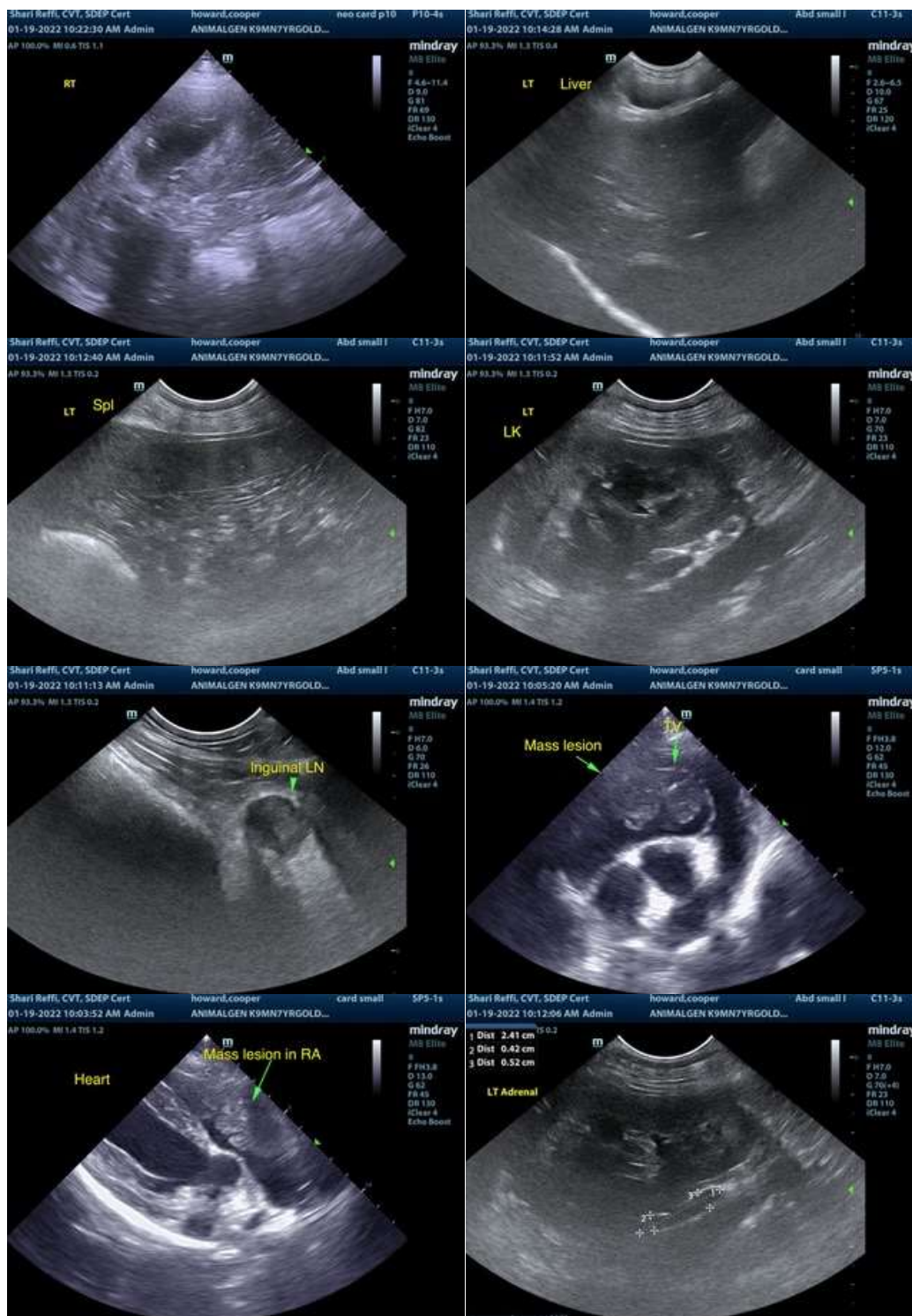
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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