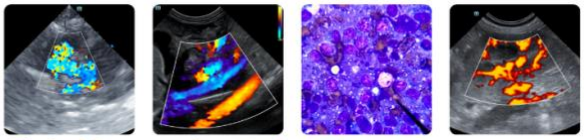


PATIENT

Momo Shumacher

SPECIES

Canine

BREED

Mix

SEX

Spayed Female

AGE

14 Years

WEIGHT

7.5 lbs

INTERPRETED BY

Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS

IMAGING PERFORMED BY

Dr. Sharkaway

HOSPITAL NAME

Kew Gardens Animal Hospital

REFERRING VET

Dr. Nader Shafik

INVOICE

16282

DATE

06/03/26

PRESENTING CLINICAL SIGNS

Congestive heart failure with suspected right-sided involvement due to heart murmur, muffled heart sounds, abdominal distension, and fluid accumulation. Possible cardiac-related ascites as indicated by abdominal swelling and labored breathing. Musculoskeletal weakness possibly secondary to abdominal distension and advanced age, abdominocentesis performed.

Abnormal PE/Chem/CBC/UA Results: Neutrophilia, eosinopenia, low HCT, Low hemoglobin.

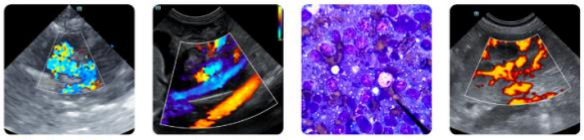
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	>5.0	2.8	1.3	1.3	45	80	0.1
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT**	**LAD** LA MAX 4 Chamber	**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				
PATIENT	NM	--	1.3	7.5 lbs	2.6	2.5	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. Prolapse of the anterior **mitral valve** leaflet was noted. Doppler indicated measurable insufficiency. The **left ventricle** presented normal 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, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

Urinary System



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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** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex. Dystrophic mineralization was noted and non-obstructive at this time. The left kidney measured 3.5 cm in length. The right kidney measured 3.5 cm in length.

Adrenal Glands

Both **adrenal glands** were not visualized.

Spleen

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.

Liver

An undifferentiated mixed hypoechoic 14.0+ cm hepatic mass was noted in the cranial abdomen, enveloping the **liver**. The hepatic veins were not dilated, therefore the ascites is not deriving from right-sided failure. The gallbladder and common bile duct were unremarkable.

Gastrointestinal

The **GI tract** was structurally unremarkable.

Pancreas

The **pancreas** revealed minor heterogenous parenchymal changes.

Free Abdomen

A large amount of **ascites** were noted in the abdomen, presumed to be hemorrhagic anemia.

ULTRASONOGRAPHIC FINDINGS

- Stage B1 valvular disease- no evidence of left or right sided heart failure. No evidence of overload even though prolapse is present.
- Hepatic mass with likely hemorrhagic or perineoplastic effusion.
- Heterogenous pancreas.
- Age-related renal changes with mineralizations.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Abdominocentesis could be considered. FNA could be considered, however, prognosis is poor. Hospice management is recommended in this patient.

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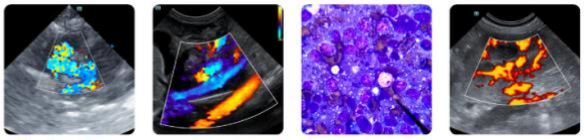

Clinical Sonography & Telecytology
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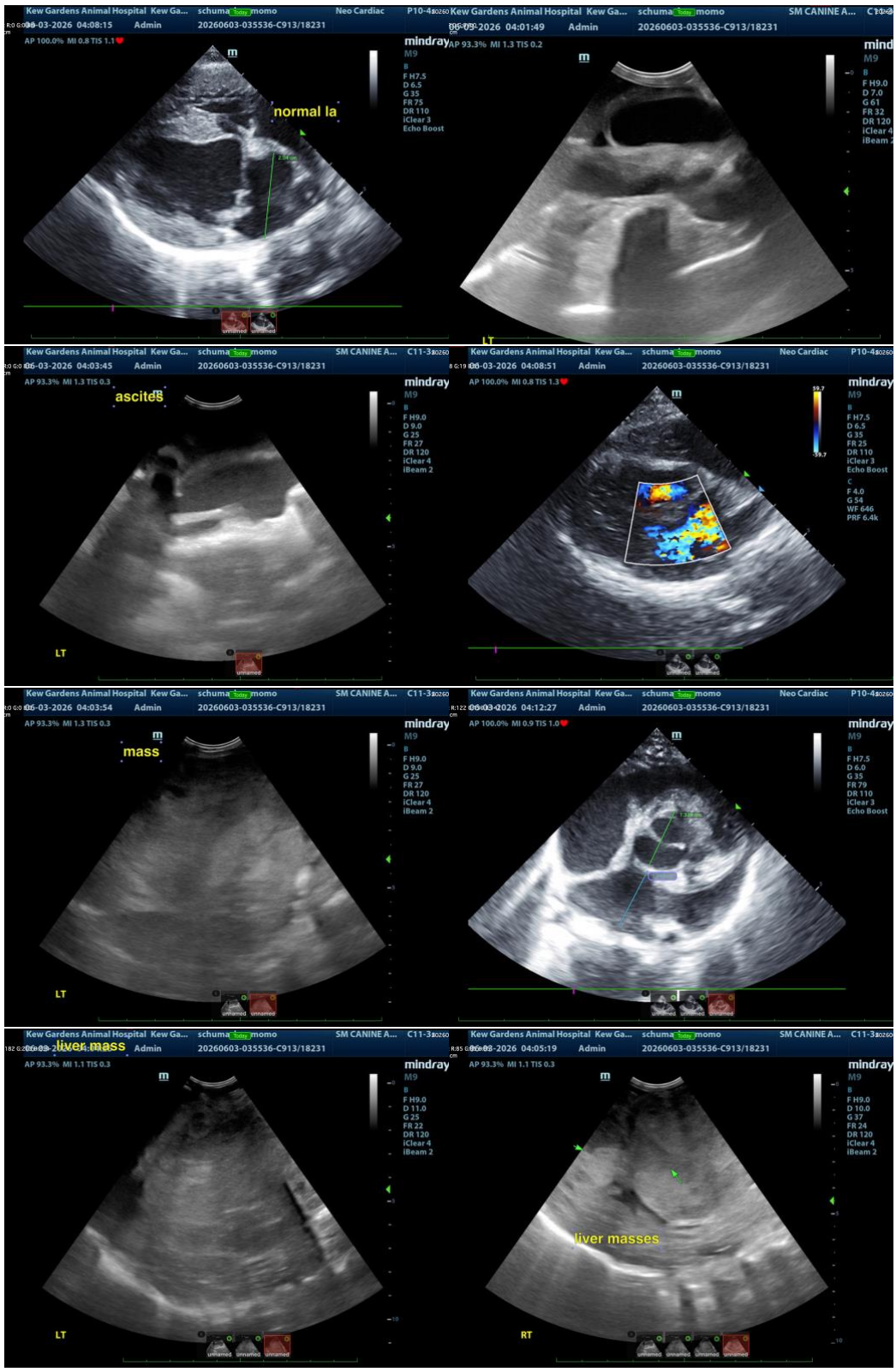

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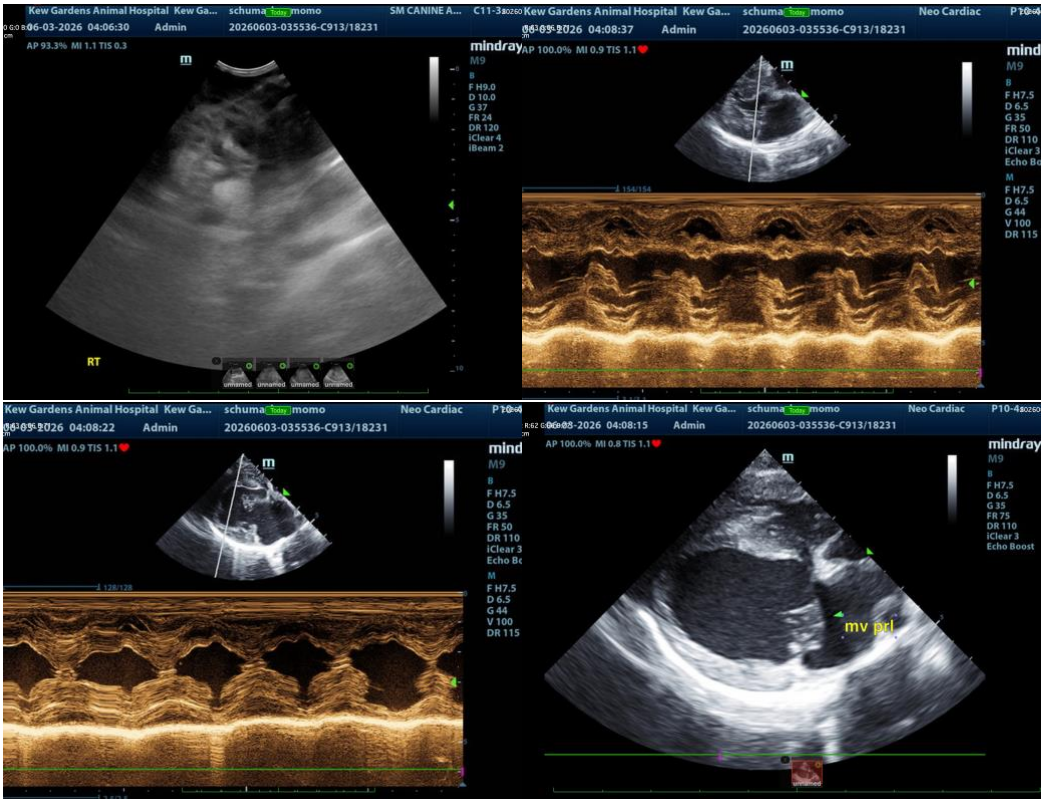

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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(CFM), Cert. IVUSS,

CEO, Owner, Founder -- SonoPath.com

info@SonoPath.com