



PATIENT PRESENTING CLINICAL SIGNS

GunnyKushner History: Severe peritoneal effusion, red tinged serosanguinous fluid. Current meds: Carprofen, Neopolydex, Tacrolimus
SPECIES Abnormal PE/Chem/CBC/UA Results: Lymph 0.66, HCT 38.9, TP 5.2, Glucose 176

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

BREED

English Bulldog

SEX

Neutered Male

AGE

11 Years

WEIGHT

57.8 Lbs.

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			NM	1.59	23.4	51.3	0.63
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	160	1.3	0.9	--	5.2	4.7	--

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet

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Dr. Kim

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Cardiac Presentation

The echocardiogram for this patient demonstrative moderately excessive **left atrial** size with anechoic content and without evidence of smoke or thrombotic activity. The atrial septum was mildly deviated toward the right atrium owing to volume overload and also suggestive of increased left atrial pressure. The cranial and caudal **mitral** valve leaflets presented potential for subtle thickening with mild centralized insufficiency. No significant dystrophic or vegetative mitral valve changes or evidence of valvular prolapse were noted. The **left ventricle** presented subjective excessive volume. Ventricular function was subnormal expressed by the fractional shortening measurement and subjective evaluation of the myocardium. Myocardium appeared to be of normal thickness and linear contour. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** was enlarged with evident overload and without evidence of neoplastic disease. The **tricuspid valve** exhibited potential for mild thickening yet normal extension, length and closure with mild centralized insufficiency on color doppler. This may be clinically significant owing to annulus stretch and volume overload or increased pulmonary resistance. The **right ventricle** exhibited subnormal kinesis concurrent volume overload. The **pulmonic outflow** tract presented dilation and prominent pulmonic volume. Rapid assessment of the hepatic veins and vena cava revealed passive congestion.

This presentation is most consistent with Dilated Cardiomyopathy (DCM) with left and right-sided volume overload, left and emerging right congestive heart failure with pulmonary hypertension.

Systemic factors such as hypothyroidism or systemic disease that negative influences the myocardial contractility may also be playing a role in the presentation.



PATIENT

Urinary System

GunnyKushner

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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No overt pathology in the area of the residual prostate.

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Normal size and margination was 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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 6.2 cm in length. The right kidney measured 6.3 cm in length.

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Neutered Male

Adrenal Glands

The left and right adrenal glands were not definitively visualized.

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Spleen

The spleen was subnormal in size with normal parenchyma echogenicity and symmetrical capsule. No splenic masses or nodules noted.

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Liver

The liver exhibited generalized enlargement with symmetrical yet swollen contour. The parenchyma exhibited conserved uniform parenchyma with normal echogenicity isoechoic to the spleen and falciform fat. The hepatic vasculature exhibited mild subjective distention, most notable at the level of the hepatic vein / caudal vena cava junction, without evidence of thrombosis.

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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

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.

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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

The pancreas was not visualized owing to increased omental artifact and ascites.

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Free Abdomen

Moderate to significant volume ascites, exhibiting mild cellular component was present. Generalized reactive mesentery was noted. No overt lymphadenopathy or omental masses were present.

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ULTRASONOGRAPHIC FINDINGS

- DCM-like cardiomyopathy with LV systolic dysfunction



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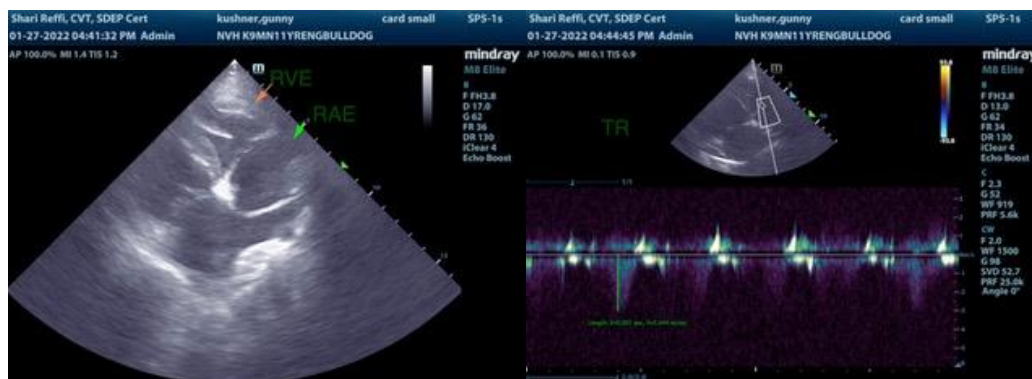
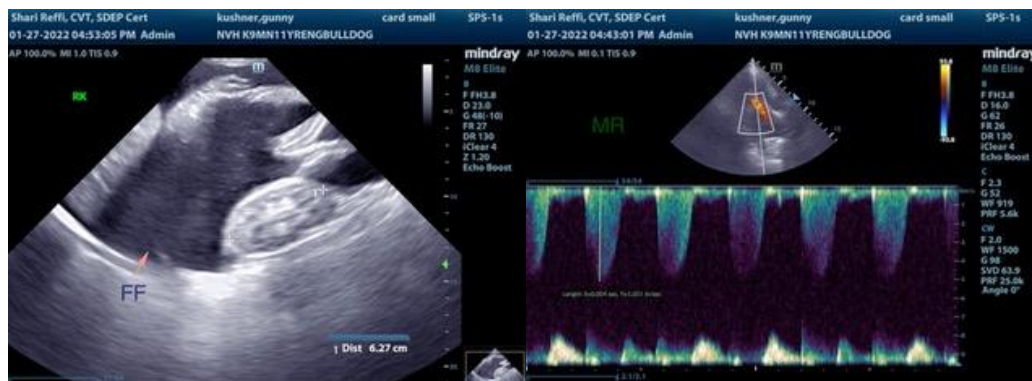
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- Moderate LA enlargement
- RA/RV enlargement with TR- estimated pulmonary gradient consistent with mild elevated pulmonary pressure.
- Hepatomegaly, exhibiting subjective mild hepatic congestion- consistent with congestive hepatopathy
- Moderate to significant volume ascites
- Volume contracted spleen- no overt neoplastic criteria

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cardiac presentation may be primary in nature (primary DCM) or secondary to taurine deficiency, endocrine disease (such as hypothyroidism), myocarditis or potentially infiltrative disease (such as lymphoma). Diet history, thyroid status and troponin levels could be considered if clinical indicated. Given the cardiac presentation and subjective congestive hepatopathy, the cause of the ascites is CHF. Prognosis is very guarded to potentially poor at this stage of the disease with increased risk going forward of CHF, development of malignant arrhythmias or potentially sudden death. Correlation with abdominal effusion analysis cytology +/- culture and sensitivity to assess for or rule out complicating factors (such as nonobvious neoplasia, inflammation or other).

Hospitalization with stabilization and as needed oxygen therapy recommended. Therapeutic/prophylactic abdominocentesis may be considered in this patient as needed. Pimobendan at 0.3 mg/kg PO BID and Lasix/Spironolactone combination at 1-2 mg/kg PO BID recommended. Monitoring of renal parameters, ECG and blood pressure assessment suggested if possible. If patient is able to be stabilized on current medications, recheck echocardiogram suggested in 3-4 months or sooner if continued episodes of CHF or worsening ascites are noted.





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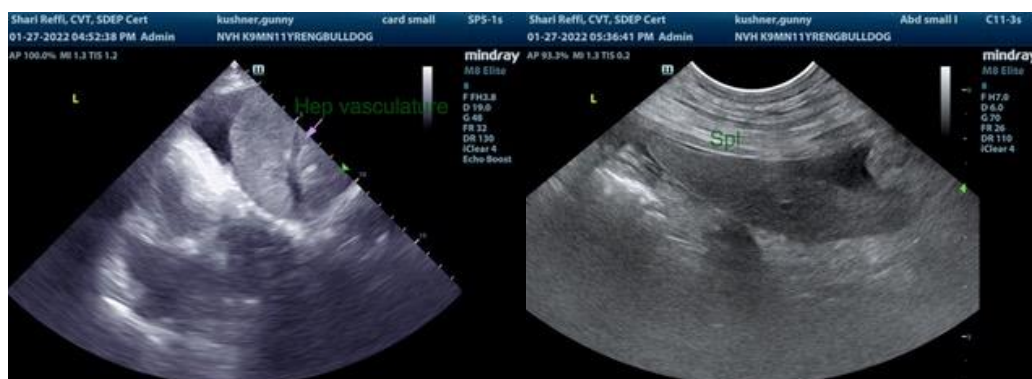
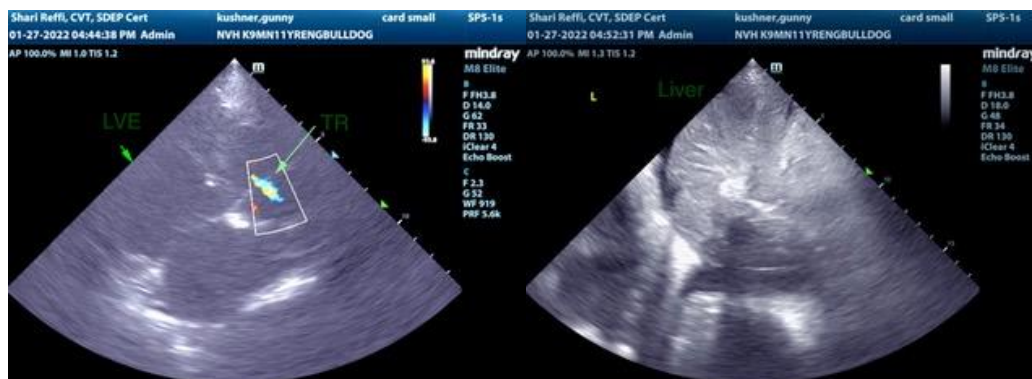
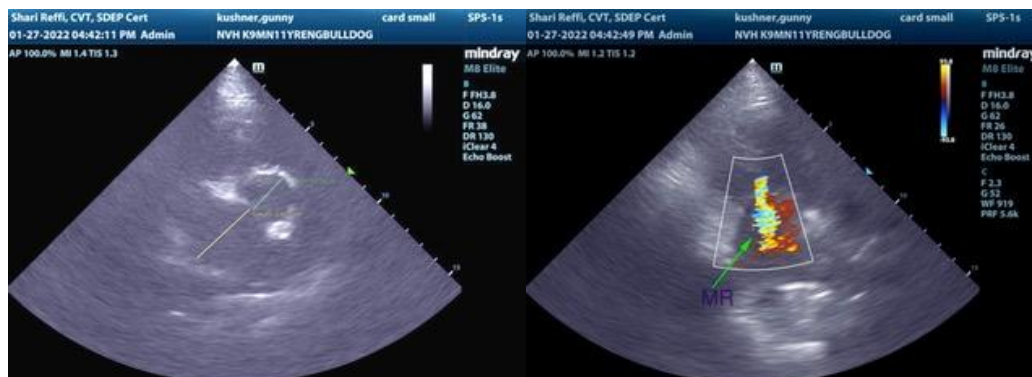
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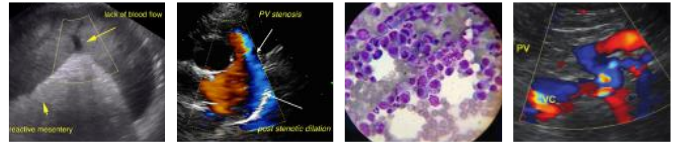
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.



PATIENT

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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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