



PATIENT

Flippy Charles

SPECIES

Canine

BREED

Australian Shepherd
Mix

SEX

Intact Female

AGE

2

WEIGHT

22

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. garry Gotfredson

HOSPITAL NAME

Red Hills VH

REFERRING VET

Sarah Meyers DVM

INVOICE

12410

DATE

10/20/21

PRESENTING CLINICAL SIGNS

-Patient presented for depressed and not wanting to eat with appearance of increased respiratory rate and effort. R/O Pericardial diaphragmatic hernia

Abnormal PE/Chem/CBC/UA Results: CBC/CHEM pending Radiographs; Pleural effusion present with enlarged cardiac shadow on VD.

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			--	--	20	46	0.42
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	NM	1.5	--		2.7	3.0	

Cardiac Presentation

The echocardiogram in this patient demonstrated subjective normal **left atrial** size based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole. No significant dystrophic or vegetative changes were noted. The **left ventricle** demonstrated subjectively excessive volume. Ventricular function was subnormal expressed by the fractional shortening measurement. Myocardium appeared mildly thin, suggestive of DCM-like presentation. The **left ventricular outflow** tract demonstrated subjective normal structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No overt evidence of masses or right heart chamber overload was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology. The **right ventricle** exhibited normal subjective size, chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed subjective normal valve structure. Mild **pericardial** and likely concurrent free pleura fluid was noted. Moderately sized, hypoechoic to nonhomogeneous mass was noted cranial to the heart in the area of the cranial thorax or mediastinum, measuring 5.0 cm x 3.5 cm.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or



PATIENT	sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.
Flippy Charles	
SPECIES	The area of the aortic trifurcation was free of pathology.
Canine	
BREED	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 4.7 cm in length. The right kidney measured 5.0 cm in length.
Australian Shepherd Mix	
SEX	Adrenal Glands
Intact Female	The left adrenal and right adrenal glands were not definitively visualized.
AGE	Spleen
2	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.
WEIGHT	Liver/ Gallbladder
22	The liver exhibited subjective generalized enlargement with normal overall parenchyma echogenicity with moderate coarse echotexture. The gallbladder was non-distended in size. The gallbladder wall was mildly thickened in appearance consisting of an echogenic double rim corresponding to the inner and outer portions of the wall. This is consistent with gallbladder wall edema. Possible causes may include acute inflammation, edema, and anaphylaxis. The cystic and common bile ducts were normal.
INTERPRETED BY	Gastrointestinal
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. The gastric body wall measured –cm width. Mild gastric distension with primarily anechoic fluid was present.
IMAGING PERFORMED BY	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.
Dr. garry Gotfredson	Normal visible colon wall layers were present with apparent formed feces in lumen.
HOSPITAL NAME	Pancreas
Red Hills VH	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.
REFERRING VET	Free Abdomen
Sarah Meyers DVM	Multiple, mid to cranial abdominal mesenteric lymph nodes were present. The lymph nodes exhibited symmetrical to rounded margination with abnormal width: length ratio (>0.5). The enlarged lymph
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nodes were bordered by echogenic to reactive mesentery. An example of the lymph nodes measured 2.6 cm length and 2.1 cm width. Small pockets of concurrent scant peritoneal free fluid were noted.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Subnormal LV systolic function with mild to moderate left ventricle enlargement
- Cranial thoracic / mediastinal mass
- Subjective hepatomegaly with minor gallbladder wall edema
- Multifocal hypoechoic to swollen mesenteric lymphadenopathy
- Pericardial / pleural effusion with concurrent minor peritoneal effusion

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the presence of the cranial mediastinal to cranial thoracic mass along with concurrent hypoechoic to swollen mesenteric lymphadenopathy, as well as nonspecific hepatomegaly, primary concern for multicentric round cell neoplasia such as lymphoma is warranted. No overt evidence of a hernia, which is considered less likely. Inflammatory or Infectious disease is also possible, yet considered less likely.

The subnormal left ventricle systolic function may be owing to systemic disease in this patient, although the possibility of cardiac infiltrative disease cannot be excluded. Given the lack of significant left atrium enlargement, cardiogenic effusion is considered less likely. The bicavitary effusion in this case may be owing to lymphatic obstruction or inflammation.

Further assessment may include ultrasound-guided FNA of an enlarged mesenteric lymph node, as well as the cranial thoracic to mediastinal mass for screening cytology and potential for oncology consultation if clinically indicated. A very guarded prognosis is warranted.





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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



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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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info@SonoPath.com