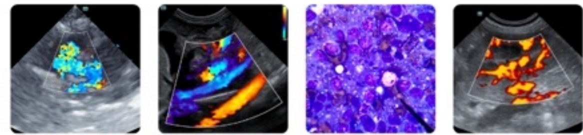


PATIENT

Munchkin Haake

SPECIES

Canine

BREED

Pitbull Cross

SEX

Spayed female

AGE

11 years

WEIGHT

36.7 lbs

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Sra Hansen

HOSPITAL NAME

VCA Westmoreland AH

REFERRING VET

Dr. Sullivan

INVOICE

74909

DATE

4/28/26

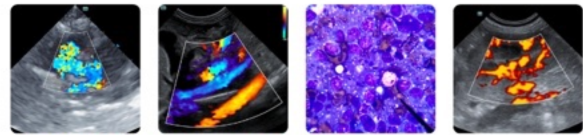
PRESENTING CLINICAL SIGNS

P has been doing well at home.
History of severe cholangiohepatitis with 1-2 flare-ups in the years since.
Primary reason for US scan is because O has lost 2 senior pets recently and despite all the BW and radiographs, things have been missed and both pets died suddenly.
O wants screening US for early disease detection
ABNORMAL Labwork Values
BW performed 2/26/26: Chem: Elevated ALT 244 (12-118), CBC: WNL, T4: WNL
UA: USG 1.011 (1.015-1.050), pH 8.5 (5.5-7.0)
Fecal PCR: Negative
Current Medications No medications but is on Rx GI Lowfat diet
Radiographic Findings
Jan 2025 -
Assessment: Normal thorax. Static microhepatia Ddx: normal variant, occult PSS, chronic hepatitis. Otherwise normal abdomen. No skeletal changes detected. Normal hips.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The left atrium is normal in dimension. The left ventricle is normal in dimension, with normal systolic function. The right atrium and ventricle are normal in dimension, with normal systolic function. The anterior and posterior mitral valve leaflets are thickened and redundant consistent with myxomatous changes, and there is mild prolapse. There is mild mitral regurgitation identified. The tricuspid valve leaflets are thickened and redundant, with no significant tricuspid regurgitation and no evidence of pulmonary hypertension. The left ventricular outflow tract demonstrated normal laminar flow and the visible aorta is unremarkable. The right ventricular outflow tract assessment revealed normal laminar flow, with appropriate main pulmonary artery diameter and right pulmonary artery distensibility. There is no pulmonic and no aortic valve insufficiency identified. There is no visible pericardial, pleural, or free peritoneal fluid documented. No evidence of hepatic venous congestion is noted. The cardiac chambers, pericardial and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.

CANINE CARDIAC PARAMETERS	Body Weight kg	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	16.68 kg	60	3.87	2.62	1.15	3.82	2.09
CANINE CARDIAC PARAMETERS	**FS**	**EPSS**	**PV V MAX (m/s)**	**AV V Max (m/sec)**	**MR Vmax**	**TR Vmax**	**RPA distensibility (normal >30%)**
NORMAL PARAMETER	28-40	<0.6	0.7-1.6	0.7-1.7	4.5-5.5	< 2.7	
PATIENT	45	0.4	0.9	1.2	5.4	Not present	38



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ECG:
A six-lead ECG at a paper speed of 25mm/s is available for review. The average heart rate is approximately 140bpm, with a normal mean electrical axis. The QRS complexes are sinus in origin (<70ms), with appropriate P-Q intervals. There are irregular R-R intervals, consistent with respiratory variation. There is no evidence of atrial or ventricular ectopy, nor any atrioventricular block. The underlying rhythm is most consistent with a respiratory sinus arrhythmia (normal physiologic change).

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

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 was noted. Ureteral papillae were normal.

The **kidneys** revealed normal size and structure. The cortices are mildly hyperechoic with a slight decrease in corticomedullary distinction. Normal cortex to medulla was noted. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules are mildly irregular bilaterally. The left kidney measured 5.0 cm. The right kidney measured 6.1 cm.

Adrenal Glands

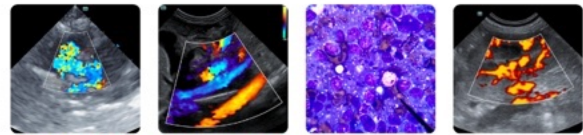
Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.66 x 2.45 cm. The right adrenal gland measured 0.59 x 2.74 cm.

Spleen

The **spleen** is slightly prominent with a diffusely, mildly mottled or heterogenous parenchymal pattern. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. The spleen measured 1.74 cm at the hilus.

Liver

The **liver** is subjectively normal to possibly slightly small in size with a normal contour and structure. The parenchymal echogenicity is slightly coarse or diffusely heterogenous with normal vasculature. There was no evidence of congestion. The gallbladder contains a mild amount of suspended echogenic debris and dependent sediment. The walls are appropriately thin with no intrahepatic or extrahepatic biliary dilation. The cystic and common bile ducts were normal. There was no hepatic lymphadenopathy.



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Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

Free Abdomen

There was no lymphadenopathy and no free fluid noted.

ULTRASONOGRAPHIC FINDINGS

These findings are consistent with degenerative/myxomatous mitral valve disease with minimal to mild hemodynamic effects consistent with ACVIM Stage B1 disease. It is unlikely that any current morbidity is of cardiac origin.

The kidneys are relatively normal in size and structure, and cortex:medulla ratio (cortex 1/3 of medulla) is essentially maintained. There is age-related loss of the normal smooth capsular contour and C/M junction definition. The cortices are largely uniform in texture with mild hyperechogenicity expected for this patient's age. There is no evidence of pelvic dilation present.

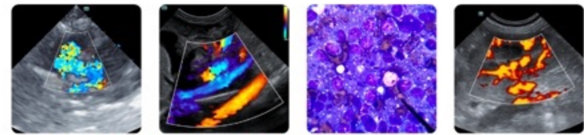
The mildly enlarged spleen with a coarse/mottled reticular pattern is most consistent with a reactive spleen, or possible splenitis. Round cell neoplasia is considered less likely, but cannot be definitively excluded.

The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory, immune-mediated, metabolic, or endocrine disease. Infiltrative neoplasia or acute hepatitis cannot be ruled out.

The gallbladder contains echogenic, suspended and dependent unorganized debris. This is not yet to the level of an organized mucocele, however early/developing mucocele cannot be ruled out. This dependent sediment is often an incidental finding, or may be associated with concurrent endocrine disease such as hyperadrenocorticism or diabetes mellitus.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given these findings, no cardiac therapy is recommended. There are no cardiac contraindications to anesthesia, fluid therapy, vasopressor therapy, or corticosteroids as indicated for further assessment



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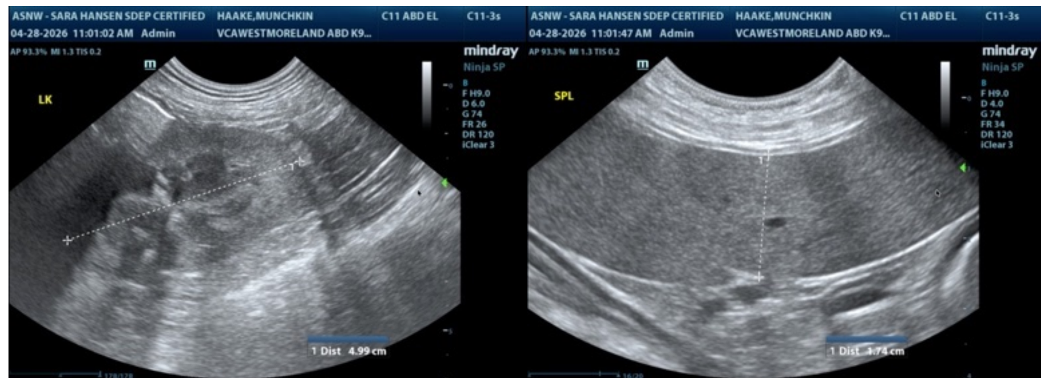
and treatment. If not already performed, baseline thoracic radiographs and blood pressure are recommended. A recheck echocardiogram is recommended in 6 months.

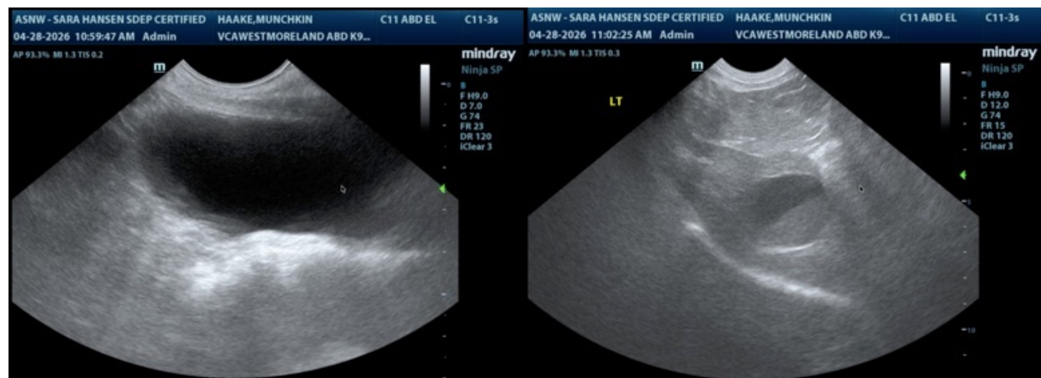
Given the patient's history, consideration should be given to hepatic biopsies with histopathology and copper quantification to better evaluate the recurrent cholangiohepatitis flares.

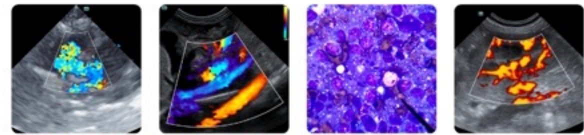
Anesthesia considerations:
If anesthesia is necessary, alpha-2 agonists, ketamine, high dose acepromazine, and Telazol should be avoided. Fluid therapy during anesthesia should be considered at a conservative rate (e.g., 5 ml/kg/hour) if possible.

Diet:
A high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina that is highly palatable with adequate protein and calories for maintaining optimal body condition is reasonable.

Activity:
No special considerations are necessary.







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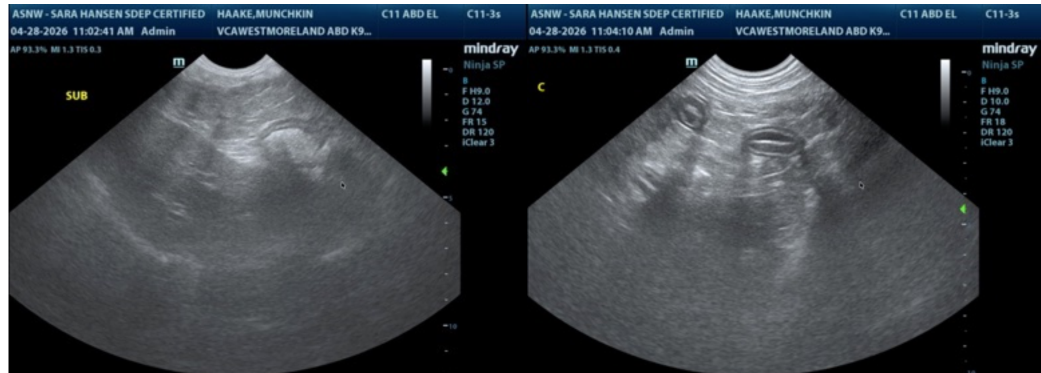

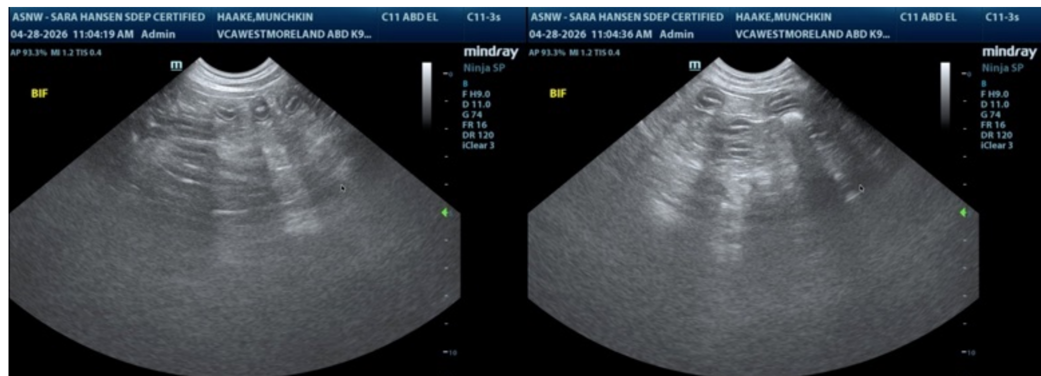

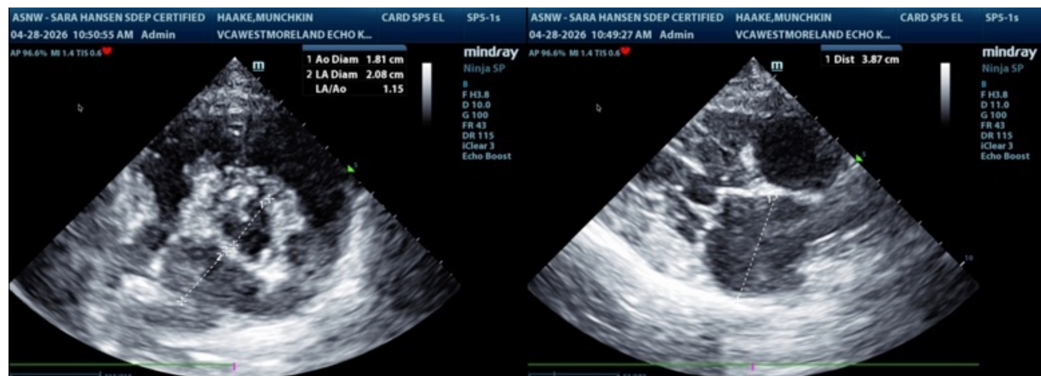

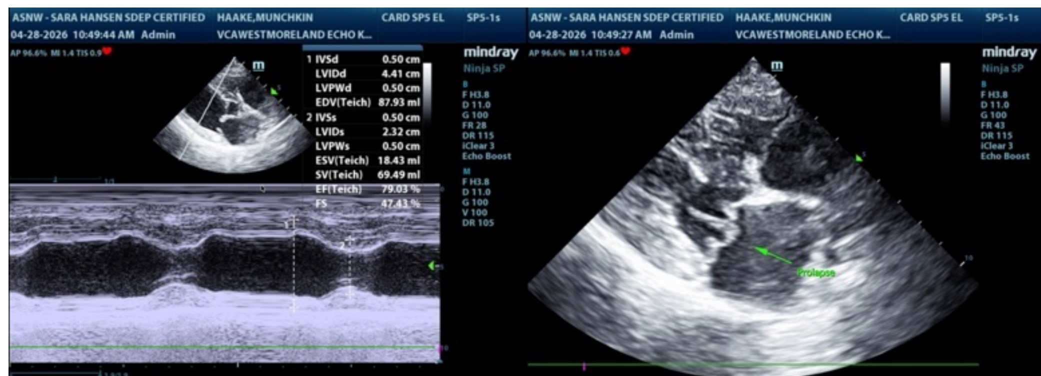

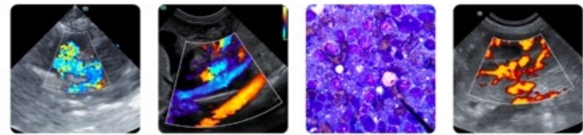

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

info@SonoPath.com