PATIENT

Kirby Gonzalez

SPECIES

Canine

BREED

Shih Tzu

SEX

Neutered Male

AGE

15 Years

WEIGHT

17.9 pounds

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Dr. Ken Leal

HOSPITAL NAME

Harmony Animal Hospital

REFERRING VET

Dr. Keefe

INVOICE

12846

DATE

12/29/25

PRESENTING CLINICAL SIGNS

Increased ALT and Alk Phos History of renal disease. Had seizure for first time today History of coughing NO murmur noted today. but history of intermittent murmur in past.

Abnormal PE/Chem/CBC/UA Results: Increased ALT Increased Alk Phos increased T bill increased TP Increased BUN.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	BW	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	8.14	170	2.72	NM	1.27	1.87	0.68
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	64	NM	1.2	1.7	NM	NM	30

Cardiac Presentation

The left atrium is normal in dimension. The left ventricle is normal in dimension, with normal systolic function. The right atrium and ventricle are subjectively normal in dimension and systolic function. The mitral valve is thickened and redundant consistent with myxomatous changes, and there is no significant prolapse. There is evidence of trivial mitral regurgitation. The tricuspid valve leaflets are subjectively normal with no 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, and appropriate diameter and distensibility. There is no evidence of semilunar valve insufficiency. There is no visible pericardial, pleural, or free peritoneal fluid noted. The cardiac chambers, pericardial and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.

Urinary System

The urinary bladder is adequately distended with anechoic urine. The bladder, trigone, and pelvic urethra are unremarkable with normal wall thicknesses and normal tone. The ureters were not visualized, which is a normal finding. There are no uroliths or sediment noted. The ureteral papillae appear normal. There is no evidence of inflammatory, infiltrative, or neoplastic disease.

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The kidneys are normal in size and structure. The cortices are hyperechoic with a loss of corticomedullary distinction. The cortex to medullar ratio is appropriate with mild pyelectasis noted bilaterally. The renal capsules are mildly irregular. The left kidney measures 3.25 cm. The right kidney measures 4.0 cm.

Adrenal Glands

Both adrenal glands are visualized and have 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 measures 0.53 cm x 1.72 cm. The right adrenal gland measures 0.68 cm x 2.38 cm.

Spleen

The splenic parenchyma is smooth and homogenous with scattered hyperechoic nodular changes that do not distort the smooth splenic capsule. There is no evidence of vascular congestion and mild spontaneous echocontrast noted with no evidence of thrombosis. The spleen measures 1.3 cm at the hilus.

Liver

The liver is subjectively enlarged with slightly rounded contour. The parenchyma is diffusely mildly hyperechoic and heterogenous. Vasculature is within normal limits with no evidence of congestion.

The gallbladder contains a mild to moderate amount of suspended echogenic debris and dependent sediment. There is no evidence of intra- or extra-hepatic biliary dilation. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach and intestines are free of stasis and peristaltic activity, with no significant dilation noted. There is normal wall thickness and acceptable curvilinear mural detail. The pyloric-duodenal junction and ileocecocolic junction are patent, and the colon contains normal shadowing feces. There is no evidence of shadowing obstructive material or overt infiltrative disease noted. No associated abnormal lymphatic activity is documented.

Pancreas

The pancreas is hypoechoic with mildly irregular margins and mixed hyper- and hypoechoic nodular changes. There a mild degree of hyperechoic mesentery or omental fat.

Free Abdomen

There is no significant lymphadenopathy or free fluid.

ULTRASONOGRAPHIC FINDINGS

- The cardiac 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 bilateral renal changes are indicative of the history of underlying chronic renal disease. The mild pyelectasis may represent chronic disease or may be secondary to iatrogenic fluid

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administration, however, concurrent pyelonephritis cannot be definitively excluded despite evidence of azotemia on biochemical profile.

- There are hyperechoic splenic foci throughout the splenic parenchyma consistent with myelolipomas. These are likely incidental and not overtly pathologic.
- 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.
- The prominent, hypoechoic pancreas with an irregular contour and mixed ill-defined hyper and hypoechoic changes is most consistent with pancreatic remodeling and nodular hyperplasia. This may be secondary to active or acute-on chronic inflammatory disease or pancreatitis.
- There is no overt underlying etiology of the reported seizure noted on this study.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

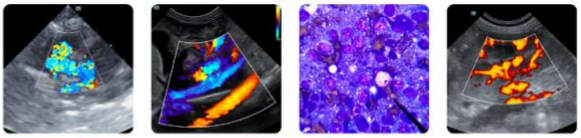
Given these findings, no cardiac therapy is recommended. There are no cardiac contraindications to anesthesia, fluid therapy, vasopressor therapy, or corticosteroids as indicated for further assessment and treatment. If not already performed, baseline thoracic radiographs and blood pressure are recommended. A recheck echocardiogram is recommended in 6 months.

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.

A urinalysis and urine culture via cystocentesis are recommended to evaluate the urinary tract changes for potential urinary tract infection. Fine needle aspirates of the spleen and liver with cytology are recommended. A coagulation profile and platelet estimate prior to sampling are indicated to ensure the absence of coagulopathy. Occasionally some tissues are poorly exfoliative, or cytology is non-specific, in which case biopsy with histopathology may be required for a definitive diagnosis. Consider a spec cPLI for further evaluation of the pancreas for active inflammation or pancreatitis, however, given the recent seizure, it is important to consider these changes may be secondary to a post-seizure.



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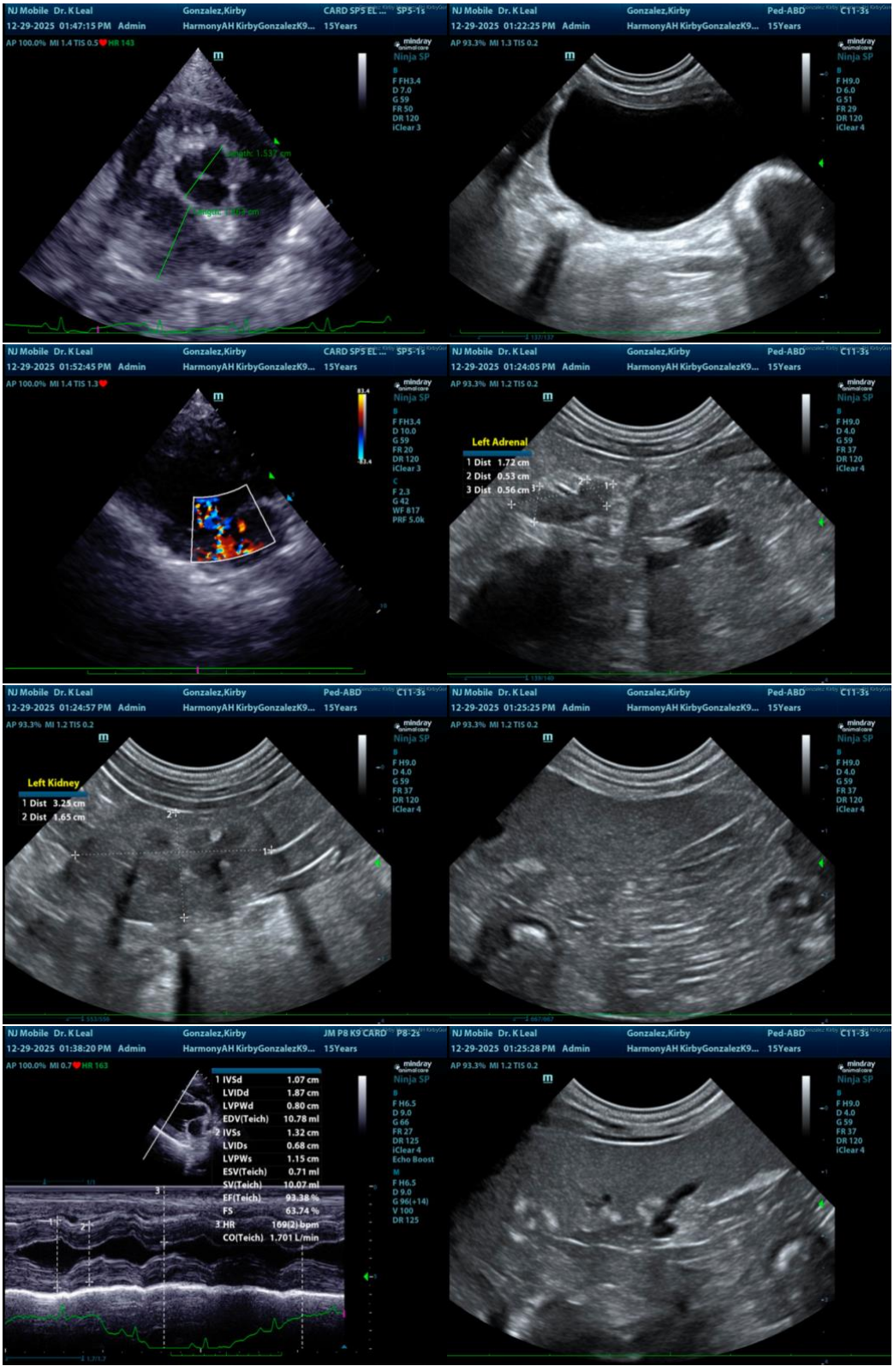

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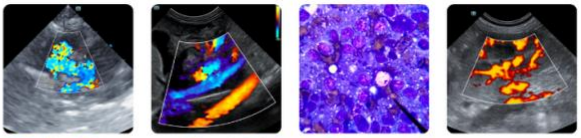

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

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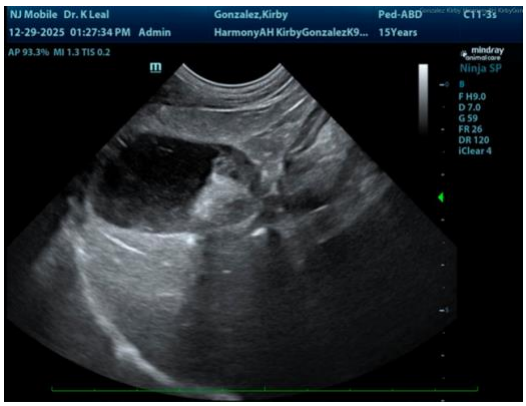

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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