
PATIENT

Willow Galluzzi

PRESENTING CLINICAL SIGNS

4/6 murmur presented for episodes of syncope, mild ascites seen on POCUS exam Echo 70 images Ab 65 Total 135 images

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART
BREED

Chihuahua

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	<1.3	28-40	40-100	<0.6
PATIENT	5.4	2.6	1.5	1.5	47.1	80	0.22
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				
PATIENT	136	1.0	0.7		2.4	2.1	

SEX

FS

AGE

17

WEIGHT

4kg

Cardiac Presentation

The echocardiogram for this patient presented excessive left atrial size expressed both in the LA/AO and LA max measurements. The cranial and caudal mitral valve leaflets presented moderate to severe thickening consistent with variable endocardiosis (anterior>posterior). Mild prolapse of the septal leaflet was present. Doppler indicated measurable moderate eccentric insufficiency. The left ventricle presented thicknesses with linear contour and was not dilated nor restricted. The myocardium presented mild mixed echogenicity consistent with mild myocardial remodeling. 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 mild thickening with mild TR on Doppler. 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). Minor pulmonic insufficiency present on Doppler. 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. No overt arrhythmia noted.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal tone. Mild nonuniform thickening of the urinary bladder wall was present. Hyperechoic focal echogenicities with distal acoustic shadowing were present in the dependent lumen. An example of an echogenicity measured 0.65 cm width. The apical urinary bladder wall measured 0.41 cm in width. No overt urinary bladder tumors.

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Belan

HOSPITAL NAME

Alpine 24/7

REFERRING VET

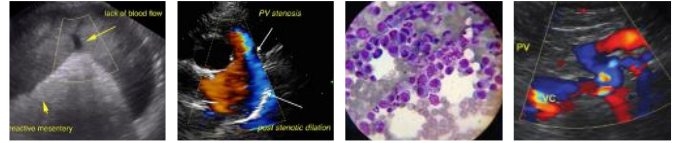
Dr. Nelson

INVOICE

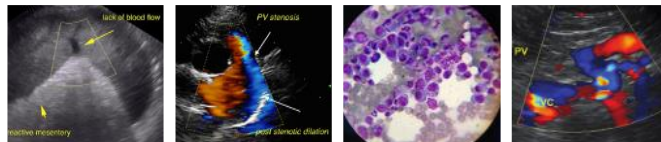
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DATE

05/02/2023



PATIENT	Normal renal size with asymmetrical margination was present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Marked loss of corticomedullary distinction was also present. Non-obstructive bilateral nephroliths and multiple variably sized cortical cysts were present. The renal medullary volume was subjectively reduced. The left kidney measured 3.65 cm in length. The right kidney measured 4.1 cm in length.
Willow Galluzzi	
SPECIES	
Canine	The area of the aortic trifurcation was free of pathology.
BREED	Adrenal Glands
Chihuahua	The bilateral adrenal glands were mildly prominent in size based on caudal pole width and body weight. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.42 cm width in the cranial pole and 0.61 cm width in the caudal pole. The right adrenal gland measured 0.67 cm width in the cranial pole and 0.59 cm width in the caudal pole.
SEX	
FS	Spleen
AGE	The spleen exhibited mild generalized enlargement with a primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease. No splenic tumors visualized.
WEIGHT	
4kg	Liver/Gallbladder
INTERPRETED BY	The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. Intermittent discrete non-homogenous hyperechoic nodules were present, an example measuring 0.93 cm in diameter. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was mildly distended in size with primarily anechoic luminal content and moderate non-organized hyperechoic debris. No evidence of gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	
IMAGING PERFORMED BY	Gastrointestinal
Dr. Belan	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.
HOSPITAL NAME	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.
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REFERRING VET	Normal visible colon wall layers were present with apparent formed feces in lumen.
Dr. Nelson	Pancreas
INVOICE	The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.
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DATE	No omental masses, overt lymphadenopathy or peritoneal effusion/ascites was present.
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ULTRASONOGRAPHIC FINDINGS

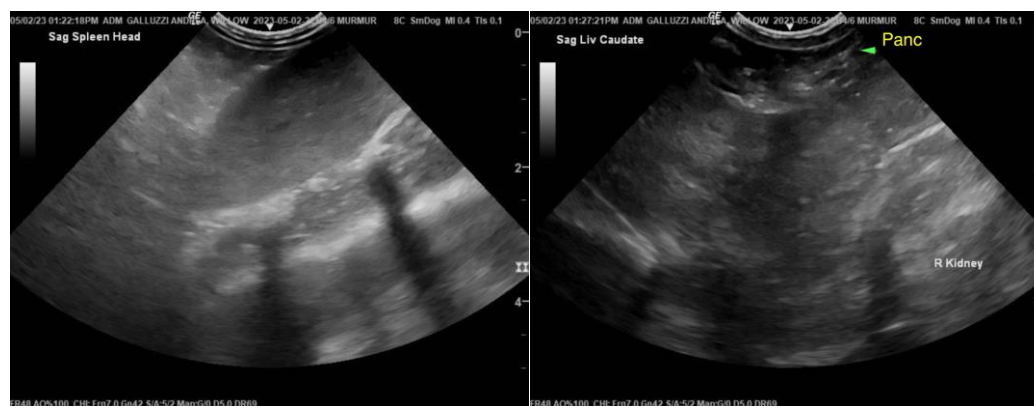
- Chronic mitral valve disease with mitral valve prolapse (ACVIM mild B2).
- Mild TR-estimated pulmonary pressure gradient not consistent with overt clinical pulmonary hypertension.
- Mild pulmonic insufficiency.
- Cystic calculi with chronic cystitis pattern.
- Marked chronic degenerative kidneys with non-obstructive nephrolithiasis and cortical cysts.
- Mildly prominent non-homogenous bilateral adrenal glands- nonspecific.
- Hepatopancreatic remodeling with suspect benign hepatic nodules-nodules suggestive of small lipogranulomas or hyperplasia.
- Moderate gallbladder debris-not overtly consistent with mucocele criteria.
- Non-specific splenomegaly-suspect incidental hyperplasia, hematopoiesis, focal splenitis, small hematoma or similar suspected.

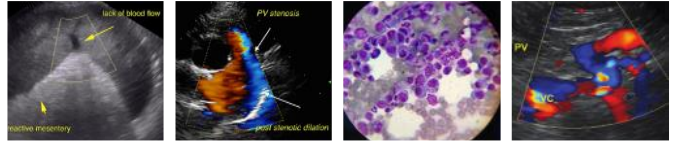
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary MR and TR. The lack of left chamber enlargement implies that the heart is stable and is not sonographically suggestive of CHF. The risk of complication secondary to MR given mild LAE is mildly elevated at this time. Potential for paroxysmal arrhythmia cannot be definitively excluded. ECG assessment or Holter monitor may be considered. Pimobendan may be controversial yet is suggested given evidence of mild LAE. No indication for additional cardiac medications.

Prognosis at this stage is variable and serial sonographic monitoring is recommended with a recheck echocardiogram in 6 months, sooner if clinically indicated.

A urine C/S on a sterile urine sample is recommended. No overt evidence of intra-abdominal neoplastic criteria or evidence of effusion/ascites. A screening BP is advised to assess for evidence of hypertension given bilateral prominent adrenal glands. Hepatosupportive medications such as Denamarin and Ursodiol are recommended if evidence of cholestasis or hepatic enzyme elevations. Assuming normal clotting status and using a 25g needle, a splenic FNA for screening cytology could be considered for further assessment specifically if evidence of weight loss.





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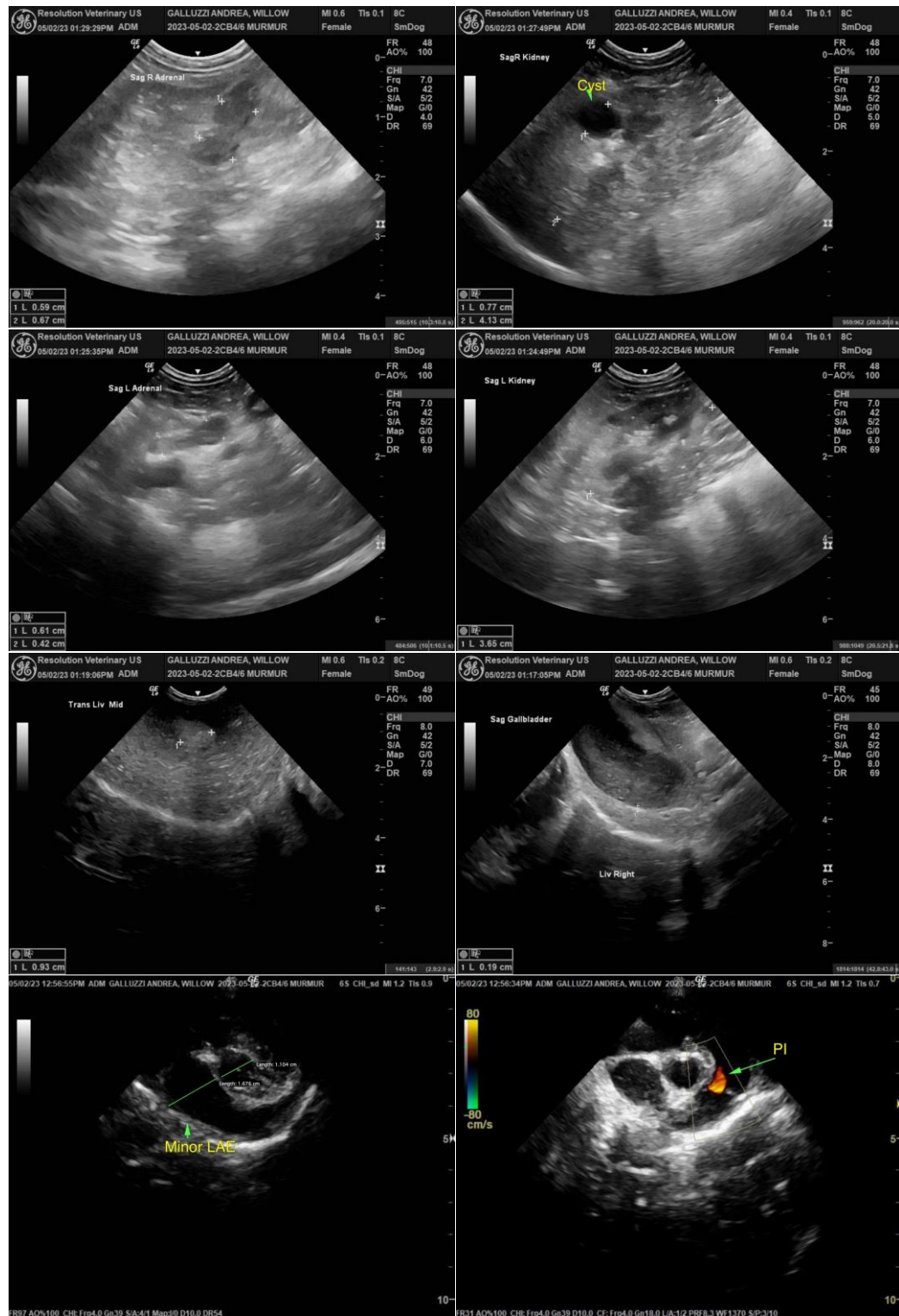
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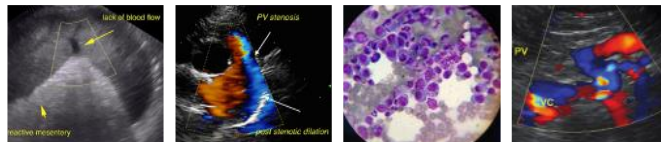
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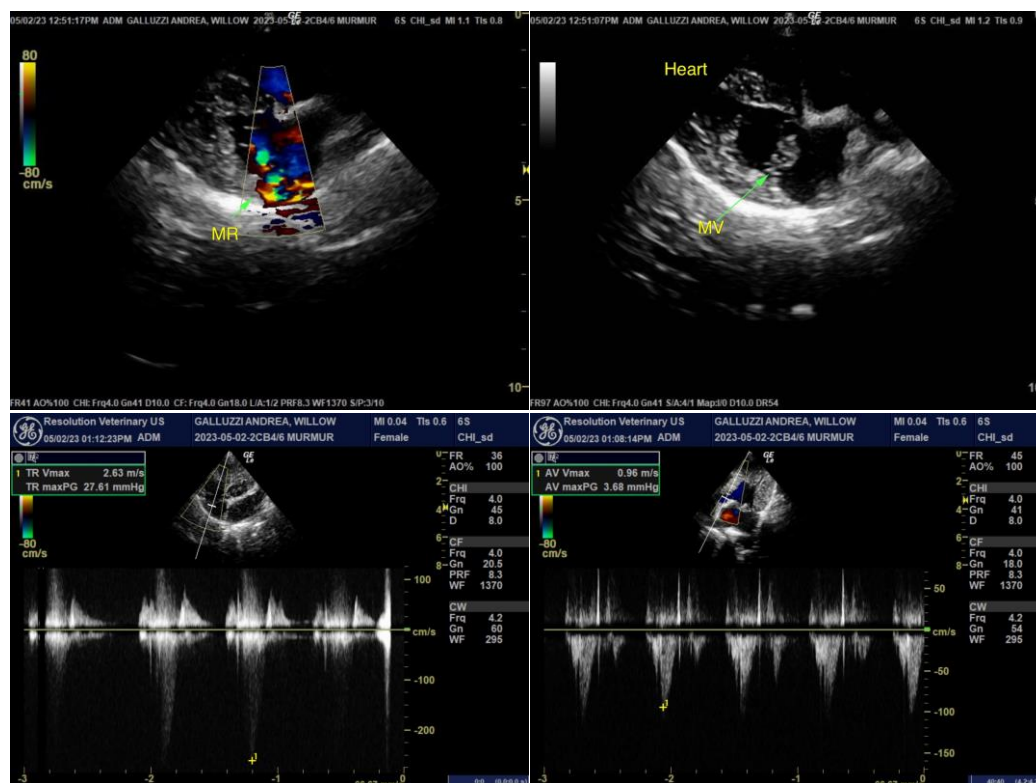
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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