



PATIENT

Bodie Allahayan

SPECIES

Canine

BREED

Pomeranian

SEX

MN

AGE

16yr

WEIGHT

8.5lb

PRESENTING CLINICAL SIGNS

History: Patient with history of diabetes and pancreatitis presents for seizures, grade 5/6 cardiac murmur - patient did have an episode of hypoglycemic seizure in the past but owners are very good at monitoring his glucose. Current meds: Keppra IV, Humulin N 2 units BID, Vetmedin 1.25mgs - 1.5 tabs BID, Enalapril 2.5mgs 1.5 tabs BID, Telemisartin 20mgs 1 PO SID, Denamarin plus.

Abnormal PE/Chem/CBC/UA Results: RBC 4.52, HCT 34%, HGB 11.7, PLTs 510. U/A: pending.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

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			1.3		41.7	76	0.24
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	120	1.3			2.3	2.4	

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Westwood Regional
Veterinary Hospital

REFERRING VET

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Cardiac Presentation

The echocardiogram in this patient demonstrated normal left atrial size and structure. Chamber volume and blood echogenicity were normal. The cranial and caudal mitral valve leaflets presented minor irregular age-related changes that are not clinically significant at this time with adequate extension in systole and union in diastole. The left ventricle presented normal free wall and septal thicknesses with linear contour. The myocardium presented some echogenic remodeling consistent with expected age-related change. Contractility of the ventricular walls was adequate and in normal range for this breed and patient size. The left ventricular outflow tract demonstrated normal laminar flow with subjectively unremarkable structure. Subjective assessment of the right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted. Tricuspid valvular assessment demonstrated expected findings for this age patient. The right ventricle was of normal size (1/3 diameter of LV), echogenicity and thickness. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No dilation due to heartworm disease, cor pulmonale, stenosis, or pulmonic hypertension was noted. No visible pericardial or free pleural fluid was noted. The mediastinum was free of masses in the visible window.

Urinary System

The urinary bladder, cystourethral junction, and visible pelvic urethra to a depth of 2 cm exhibited normal thickness and tone. Mild regional thickened dorsal trigone exhibiting pinpoint hyperechoic foci primarily in the area of the trigone luminal surface measuring 1.0 cm in width was present. 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.



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. Mild loss of corticomedullary distinction was also present. The renal medullary volume was subjectively reduced. Mild pyelectasia with small cortical cysts present in the left kidney. Small cortical cysts were present in the right kidney. The left kidney measured 4.2 cm in length. The right kidney measured 4.0 cm in length.
Bodie Allahayan	
SPECIES	
Canine	The area of the aortic trifurcation was free of pathology.
BREED	No pathology in the area of the residual prostate.
Pomeranian	Adrenal Glands The left adrenal gland exhibited mild enlargement with subtle nonhomogeneous nonmineralized parenchyma. The left adrenal gland measured 0.81 cm width at the caudal pole and 1.95 cm length. The right adrenal gland was not definitively visualized.
SEX	
MN	Spleen The spleen exhibited normal size and contour with generalized mild parenchyma heterogeneity and intermittent nonexpansive hyperechoic nodules consist with benign myelolipomas. 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.
AGE	
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WEIGHT	Liver The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content with mild dependent mildly hyperechoic nonorganized luminal debris. The cystic and common bile ducts were normal.
8.5lb	
INTERPRETED BY	The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	
IMAGING PERFORMED BY	Gastrointestinal The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained mild nonshadowing ingesta/chyme with no signs of ileus, obstruction or foreign material.
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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.
Westwood Regional Veterinary Hospital	Normal visible colon wall layers were present with apparent formed feces in lumen.
REFERRING VET	Pancreas The parenchyma of the pancreas was hyperechoic to adjacent omental fat with diffuse parenchyma remodeling. The capsule of the pancreas was mildly asymmetrical in contour without evidence of peripancreatic inflammation. These changes may suggest chronic inflammation, fibrosis, or saponification if previous history of pancreatitis. No overt signs of pancreatic neoplasia.
Dr. McConnell	
INVOICE	Free Abdomen No overt lymphadenopathy or peritoneal effusion was present.
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DATE	ULTRASONOGRAPHIC FINDINGS
07/29/2022	



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- Overtly normal cardiac structure and function for age
- Mildly thickened dorsal trigone wall with suspect mild mural mineralization
- Moderate to marked chronic renal changes
- Mildly enlarged left adrenal gland
- Hepatic parenchyma remodeling, mild gallbladder debris (non-mucocele)
- Chronic pancreatitis pattern

SPECIES

Canine

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

BREED

Pomeranian

No evidence of structural or functional cardiomyopathy was observed. An obvious cause of the murmur was inconclusive. Given the age of the patient or if the murmur is left sided, compensated chronic mitral valve disease would be likely. Continued Vetmedin at current dose and monitoring of systemic BP is warranted. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs consistent with cardiac disease arise.

SEX

MN

The thickened trigone with mural mineralization is not specific and may indicate a regional area of chronic cystitis or age-related changes. Potential for emerging urinary bladder neoplastic criteria cannot be definitively excluded. A screening BRAF assay as well as sonographic monitoring of progressive dorsal trigone thickening is suggested. Correlation with pending UA suggested.

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The mildly enlarged left adrenal gland is nonspecific with considerations including adenomatous change, age related variant, benign hyperplasia without overt evidence of neoplastic criteria noted. An adrenal workup could be considered if clinical signs consistent with adrenal hyperfunction are present.

WEIGHT

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The addition of Ursodiol to hepatosupportive medications may be considered if evidence of cholestasis.

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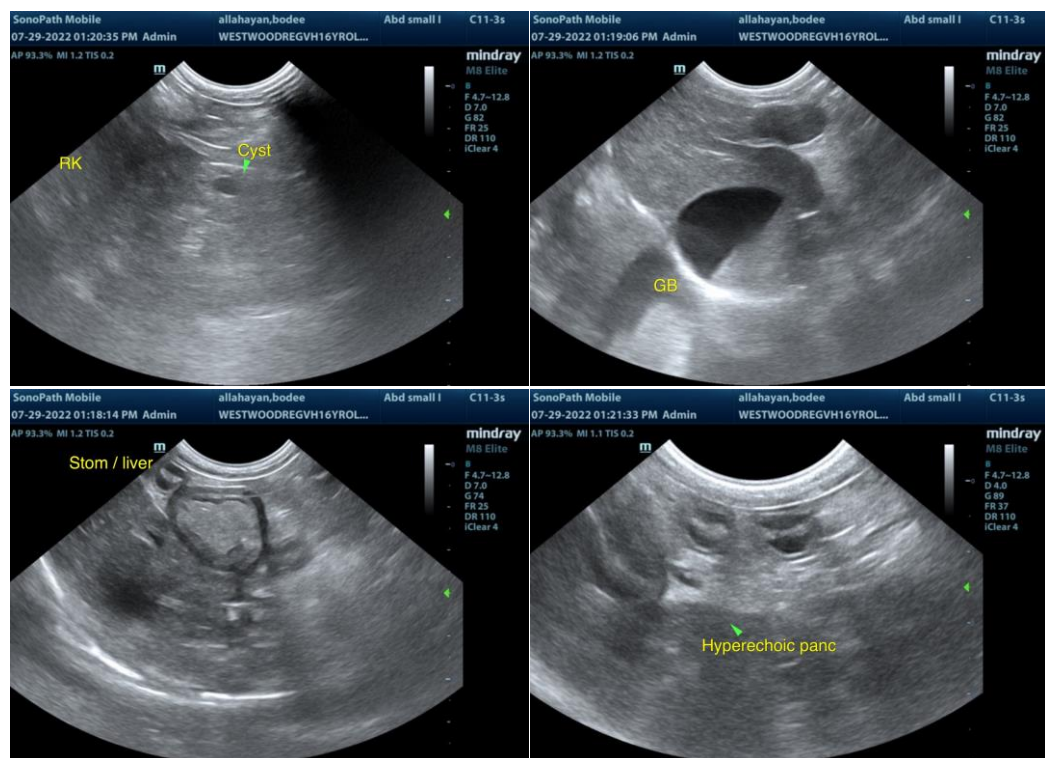
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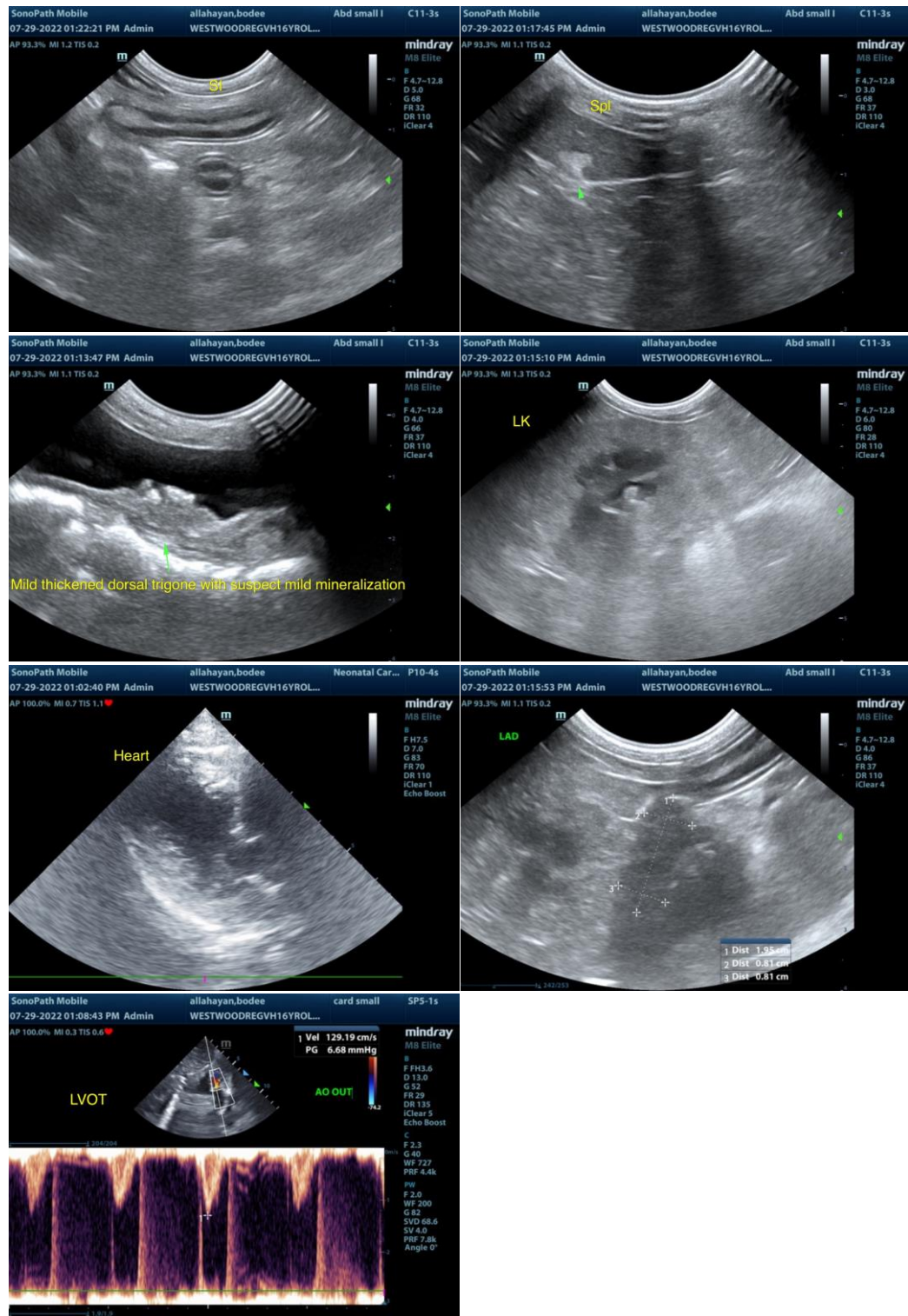
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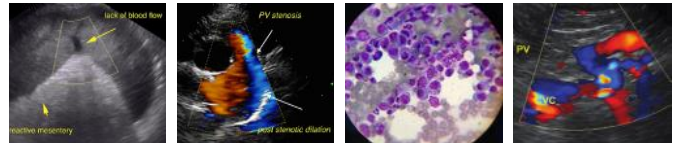
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I



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can be of any further assistance please contact me.

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