



PATIENT

Buster Houlis

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Neutered male

AGE

10 years

WEIGHT

19.3 lbs

PRESENTING CLINICAL SIGNS

History: ADR, per blue pearl - cardiomegaly, hepatomegaly, + abnormal kidneys on rads
 Abnormal PE/Chem/CBC/UA Results: 6/26/23 wnl

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. **Mitral** valve insufficiency was noted in this patient. The insufficiency was centralized and unremarkable. Mild sectorial hypertrophy was noted in the **left ventricle** with irregular papillaries. The septal and free wall thicknesses were mildly excessive. This is a mild form of hypertrophic cardiomyopathy phenotype. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **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 and angles 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 adequate linear morphology and kinetics. 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). No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

INTERPRETED BY

Eric Lindquist, DMV
 DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Valeryia Shumskaya

HOSPITAL NAME

Ramapo Valley AH

REFERRING VET

Dr. Katara

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FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LWVd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		170	0.6	2.0	0.61	45	90
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	1.35		1.3	1.33	1.1	NM	
Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							



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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. Bladder calculus measuring 0.6 cm and was non-obstructive at the time of the sonogram. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **right kidney** was subnormal in size, dystrophic, fibrosed, irregular and mineralized measuring 2.84 cm. The left kidney was hypertrophied with thickened and irregular cortical remodeling with subcapsular cyst or emerging peri-renal pseudocyst measuring 5.44 cm. The left kidney presented pericapsular inflammation. It is likely that the left kidney recently passed a calculus as other mineralization and calculi were noted in the renal pelvis. The right kidney is likely an end stage sequelae from a similar process.

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.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

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.



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Pancreas

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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.

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ULTRASONOGRAPHIC FINDINGS

BREED

Stable hypertrophic cardiomyopathy phenotype with mitral insufficiency, compensated at this time.

Domestic Shorthair

Bladder calculus with post obstructive nephrotic syndrome in the left kidney with regional inflammation.

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Neutered male

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

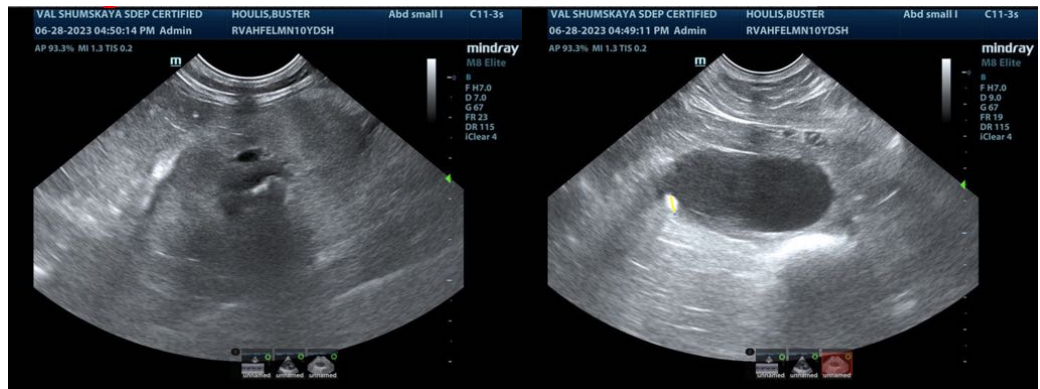
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10 years

72-hour IV fluid support, blood pressure measurements and pain management are all indicated. The patient likely passed a calculus recently from the left kidney. The right kidney likely does not have significant functionality given the subjective degenerative changes. Fluid therapy should be utilized with caution given the cardiac disease, yet no emergent signs of cardiac failure are noted

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INTERPRETED BY

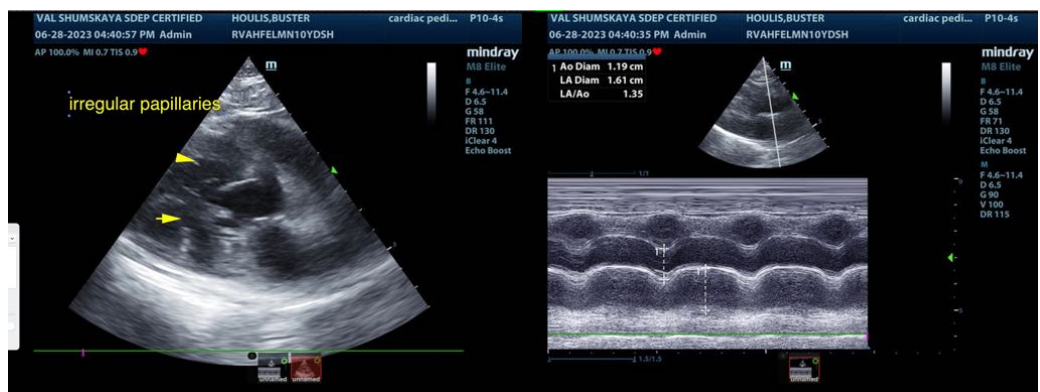
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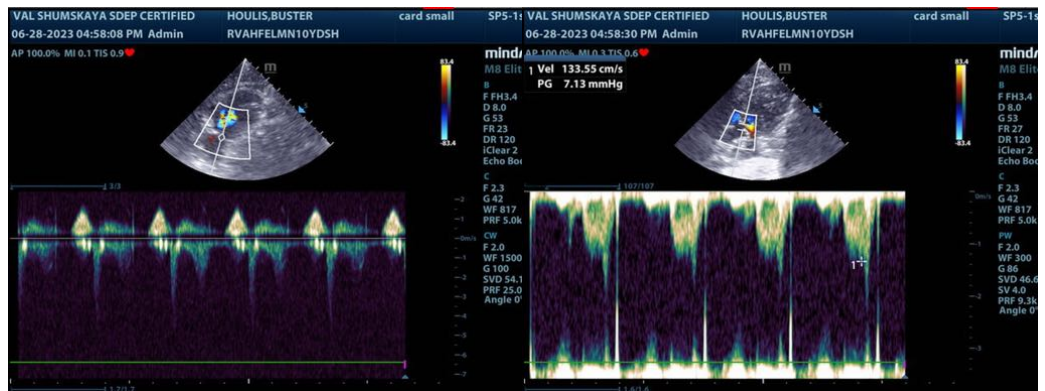
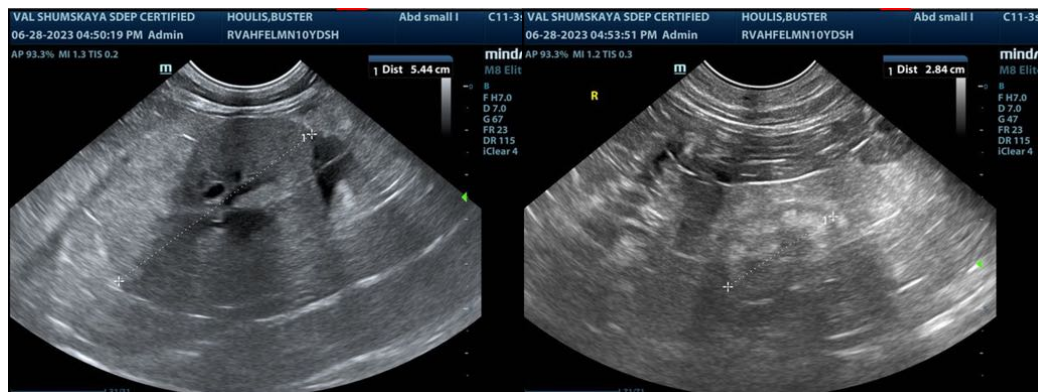
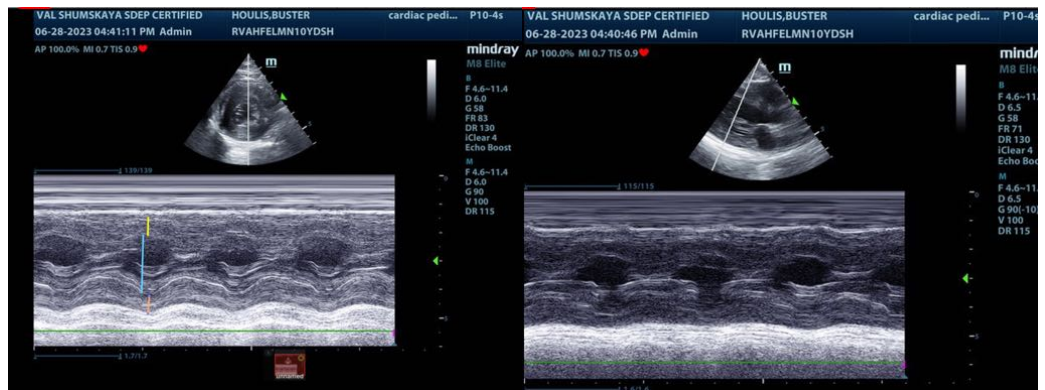
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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

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