

## PATIENT PRESENTING CLINICAL SIGNS

Chaz Mando

## SPECIES

Canine

History: R/O worsening pulmonary hypertension; pancreatic enzyme elevation and abdominal pain; regurgitation. On enalapril 5 mg x 1/2 sid, sildenafil 20 mg x 1/2 bid, metronidazole 250 mg sid, apoquel 5.4 mg sid.

BUN 52, creat 1.1 (severe muscle loss), K+ 7.1, lipase 3581

## BREED

Cocker Spaniel

## SEX

Neutered male

## AGE

13 years

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient presented **mitral** and **tricuspid** insufficiency with a prominent **right** heart. Pulmonary artery dilation was noted. **Pleural** and **pericardial** effusion was present. The hepatic veins were not dilated. The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. 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 of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity.

## WEIGHT

22.8 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Diane McFadden, RVT

## HOSPITAL NAME

Animal Care Center of  
Flanders

## REFERRING VET

Dr. Casulli

## INVOICE

47768

## DATE

6/15/23

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base;)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.0	3.3	1.28	1.46	43	75	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	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	BELOW	BELOW	BELOW	BELOW
PATIENT		2.3	1.8	22.8 lbs	2.9	3.62	



**PATIENT**

Chaz Mando

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**  
*Urinary System*

**SPECIES**

Canine

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.

**BREED**

Cocker Spaniel

The **kidneys** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. Minor, non-obstructive mineralization was noted. The left kidney measured 5.24 cm. The right kidney measured 6.15 cm.

**SEX**

Neutered male

**AGE**

13 years

**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 2.3 x 0.64 cm at the caudal pole and 0.7 cm at the cranial pole. The right adrenal gland measured 2.55 x 1.4 cm at the cranial pole and 0.55 cm at the caudal pole.

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**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.

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**Liver**

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. The liver revealed an occasional anechoic cyst that measured up to 0.6 cm. Isoechoic to hypoechoic nodular changes were noted in the liver. The left lateral liver revealed a nodule that measured 3.24 x 1.54 cm. FNA is indicated, yet it appears benign. This is likely nodular hyperplasia. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. Minor, non-obstructive calculi were noted. The gallbladder was mildly over distended with suspended and dependent debris, yet not to the level of emerging mucocele, yet sludge appears to be mildly excessive. No adjunctive inflammation was noted.

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***Gastrointestinal***

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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***

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.

**SEX**

Neutered male

***Free Abdomen***

A cystic renal lymph node was noted and is not pathological.

**AGE**

13 years

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

22.8 lbs

Nodular hyperplasia liver pattern with remodeling.

Moderate degenerative renal disease.

Cystic left renal lymph node.

**INTERPRETED BY**

Eric Lindquist, DMV  
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Compensated valvular disease with contained pulmonary hypertension.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No adjustment in cardiac medications are recommended at this time. Bile acid profile would be indicated +/- FNA of the liver. Low-dose, non-injectable cortisones could be utilized to treat for primary respiratory disease.

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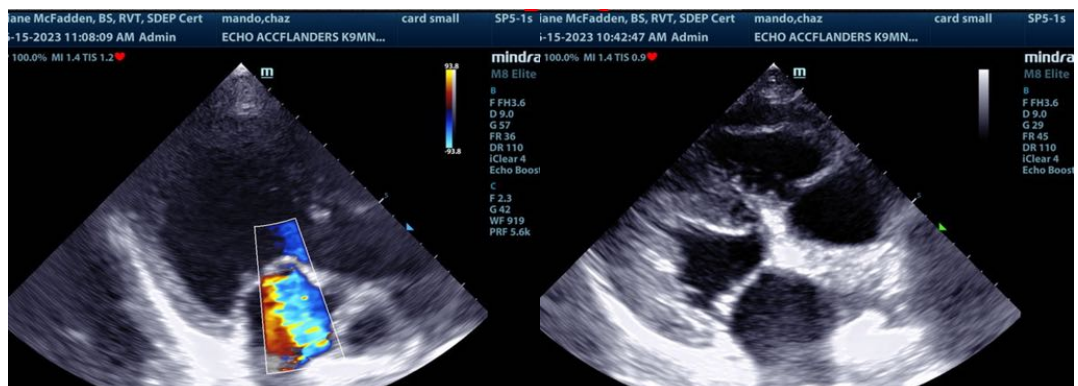
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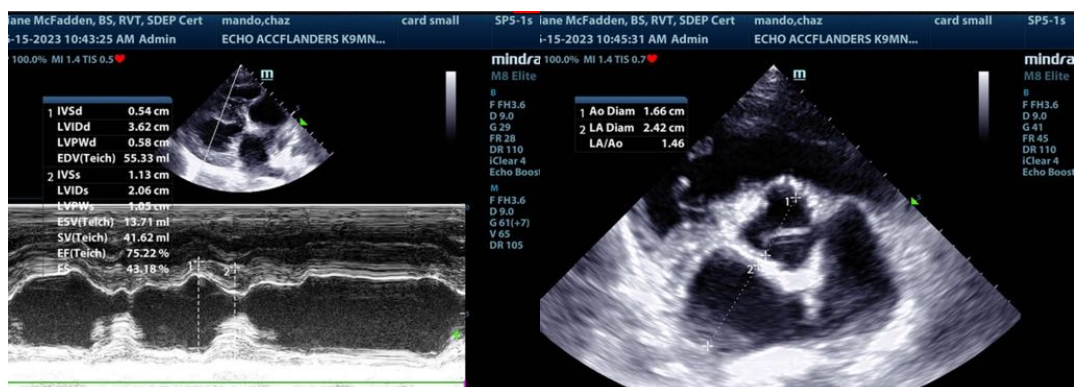
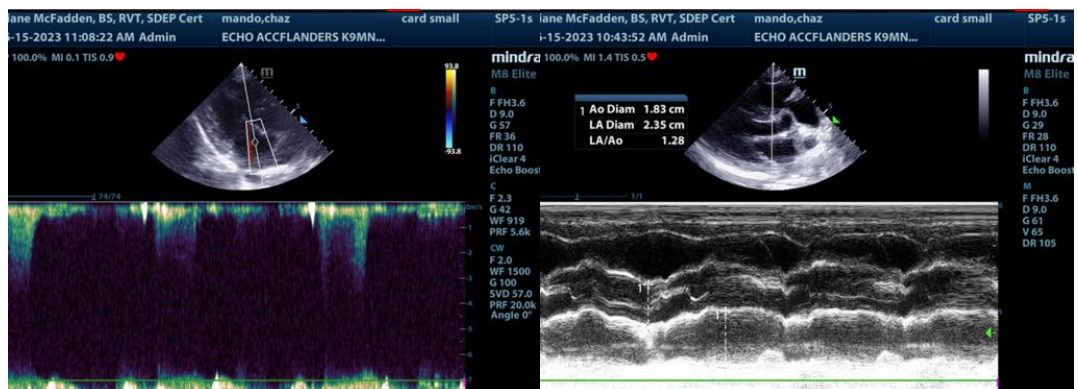
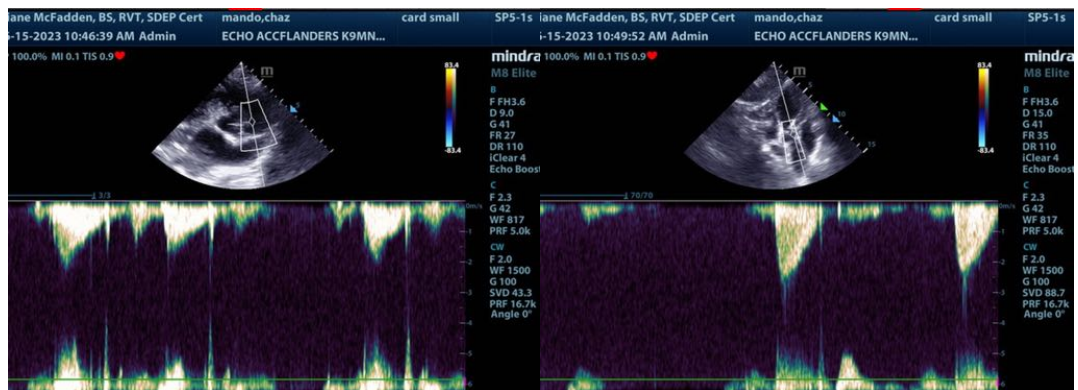
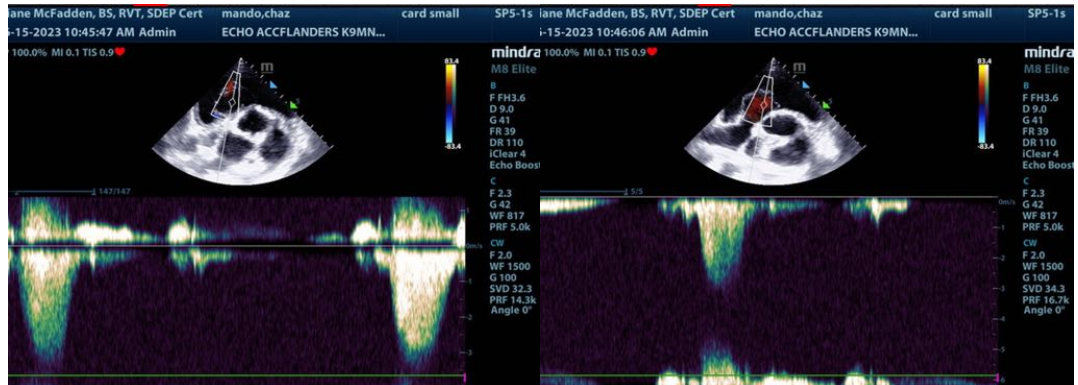
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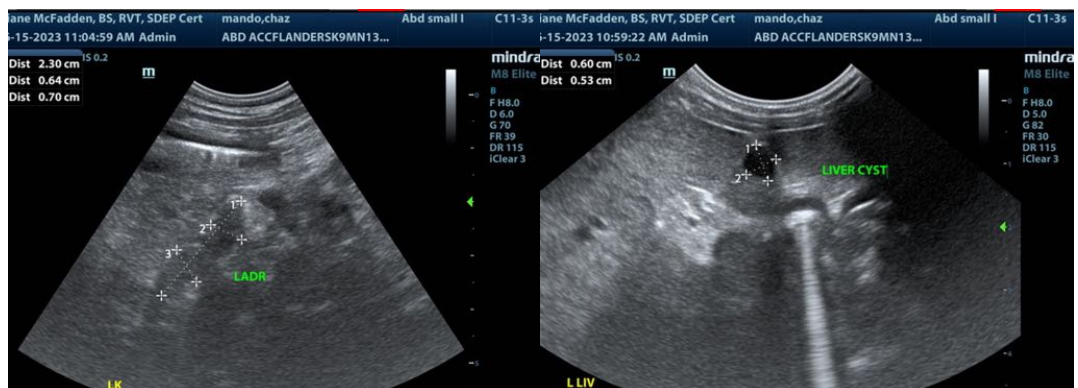
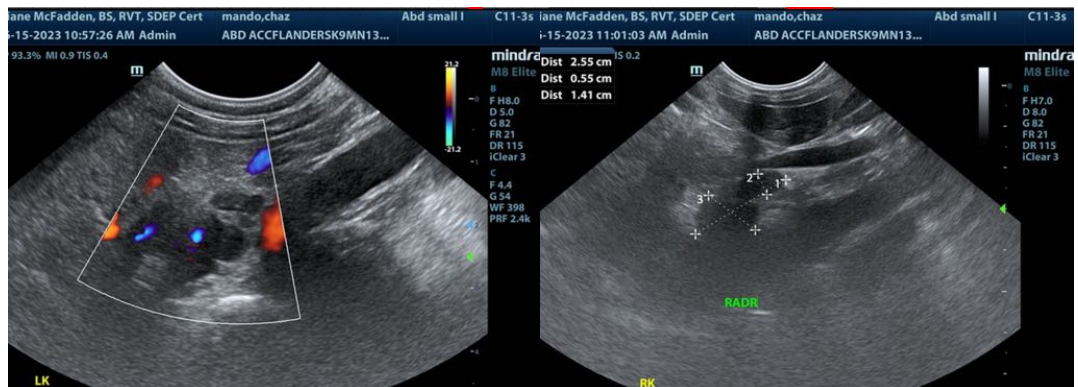
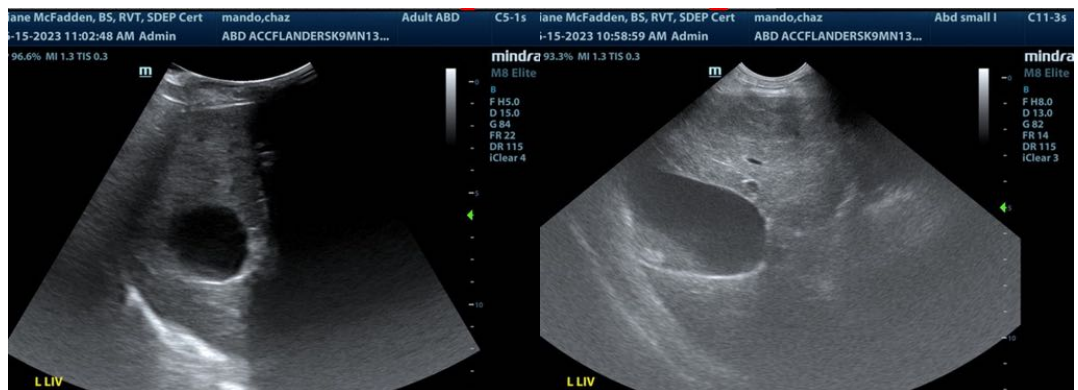
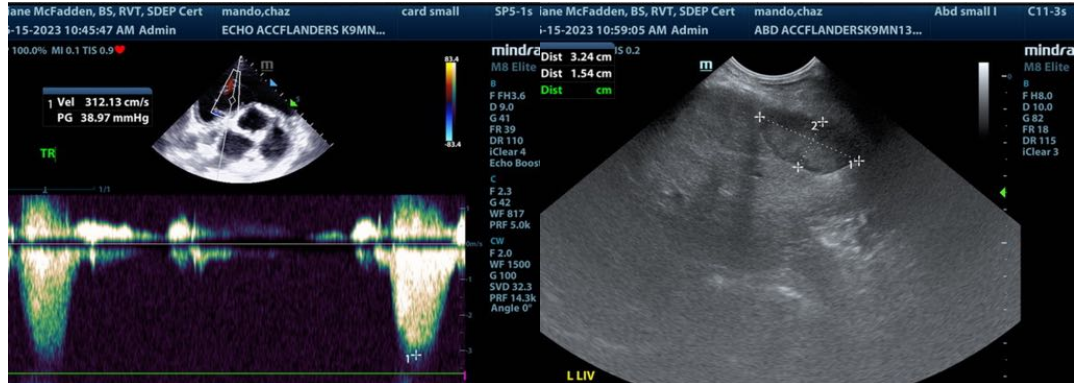
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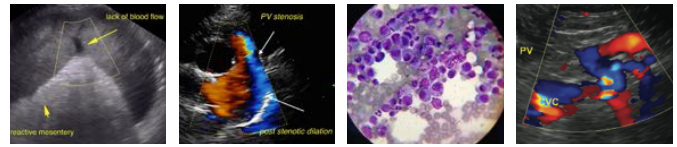
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
Info@SonoPath.com

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