



PATIENT PRESENTING CLINICAL SIGNS

Cosmo Kuzmiskas History: a couple of episodes of collapse; R/O cardiac cause of collapse/seizures, also shunt

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN
Urinary System

Canine

BREED

Chihuahua Mix

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.

SEX

Neutered male

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.39 cm. The left kidney measured 3.95 cm.

AGE

2 years

Adrenal Glands

WEIGHT

14.1 lbs

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 2.01 x 0.55 cm at the caudal pole and 0.41 cm at the cranial pole.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Spleen

IMAGING PERFORMED BY

Diane McFadden, RVT

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

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The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. The **portal vein to vena cava ratio** was 1:1. The portal vein measured 0.6 cm and the vena cava measured 0.6 cm. Portal vein branching was followed and appeared normal. Intrahepatic vasculature appeared normal. 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.

DATE

10/12/21



PATIENT

Cosmo Kuzmiskas

Gastrointestinal

SPECIES

Canine

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.

BREED

Chihuahua Mix

Pancreas

SEX

Neutered male

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.

AGE

2 years

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

WEIGHT

14.1 lbs

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented subnormal contractility and minor, excessive internal volume. This is not to the level of clinical significance. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

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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	<1.6	28-40	40-100	<0.6
PATIENT			1.3	1.3	24	48	0.64
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				
PATIENT	107	1.49	0.6	14.1 lbs	2.88	3.73	



PATIENT ULTRASONOGRAPHIC FINDINGS

Cosmo Kuzmiskas

Hypocontractility.

SPECIES

Minor increased left ventricular volume.

Canine

Structurally normal abdomen.

BREED

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chihuahua Mix

Nutritional cardiomyopathy, myocarditis, systemic disease and bradyarrhythmia are all possible causes. EKG is warranted. Blood pressure measurements are warranted. EKG +/- Holter monitor is warranted. There was no evidence of intrahepatic or extrahepatic shunting.

SEX

Neutered male

There is no evidence of abdominal visceral pathology responsible for the clinical signs. I recommend focusing on the CNS +/- heart in this patient regarding possible nutritional cardiomyopathy or cause of myocarditis. EKG/Holter monitor is warranted as well as full CNS examination and blood pressure measurements. Holter monitor can be obtained from our office. CT of the CNS would be ideal with contrast.

AGE

2 years

ABOUT SONOPATH CT SERVICES:

WEIGHT

14.1 lbs

SonoPath CT Services are offered at the Blairstown Animal Hospital. Blairstown, New Jersey. More information can be found at

<https://sonopath.com/resources/sonopaths-teleconsultation-services-and-sdep-certification/sonopath-ct-services>

INTERPRETED BY

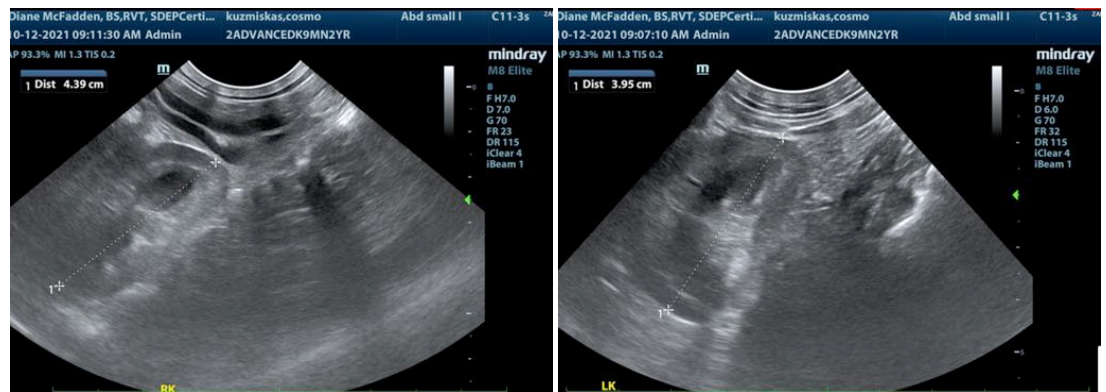
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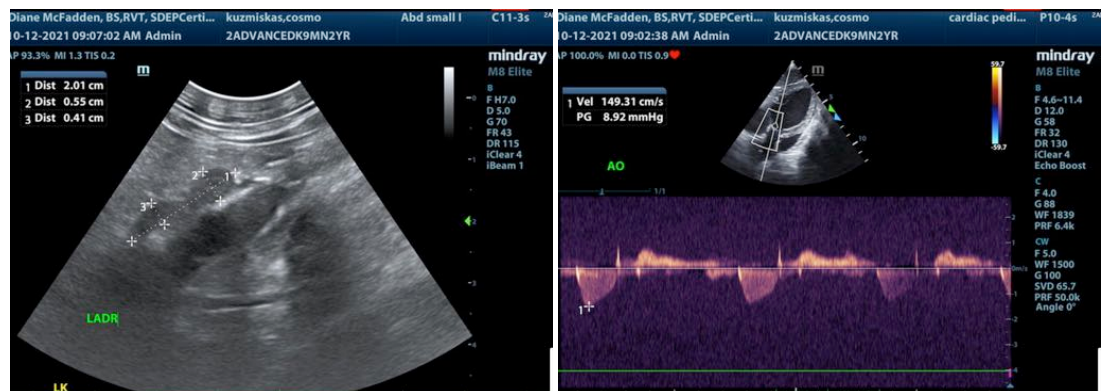


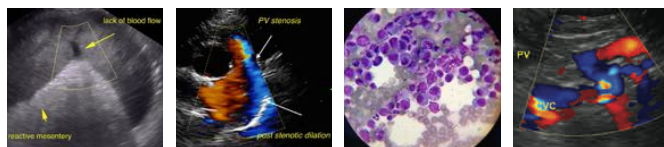
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Chihuahua Mix

SEX

Neutered male

AGE

2 years

WEIGHT

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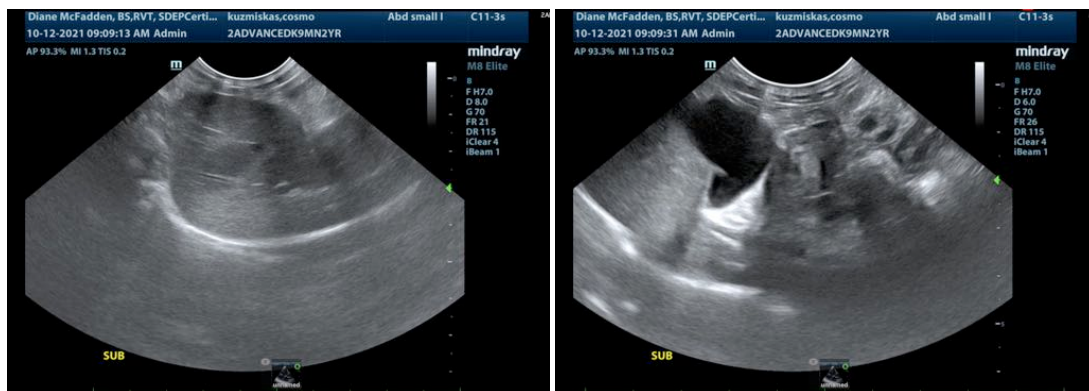
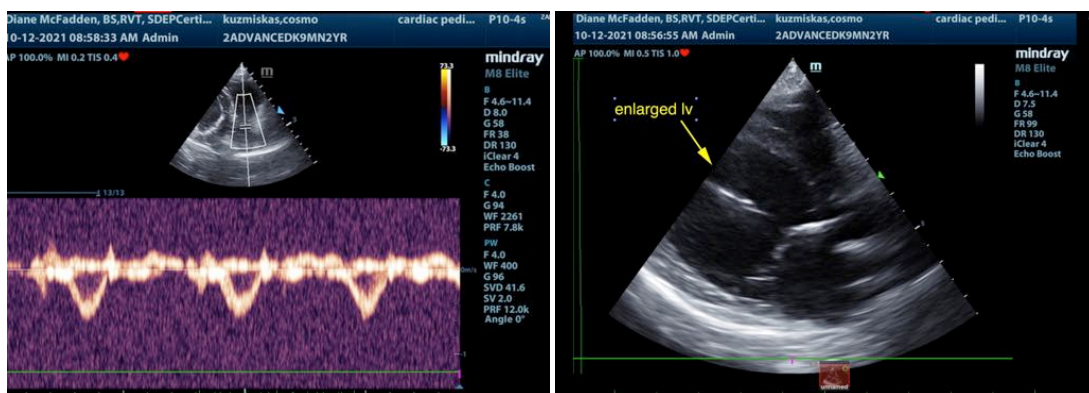
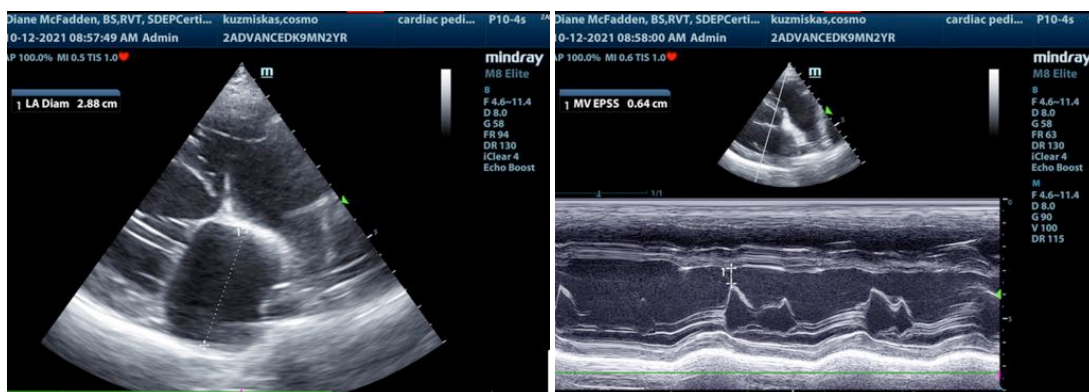
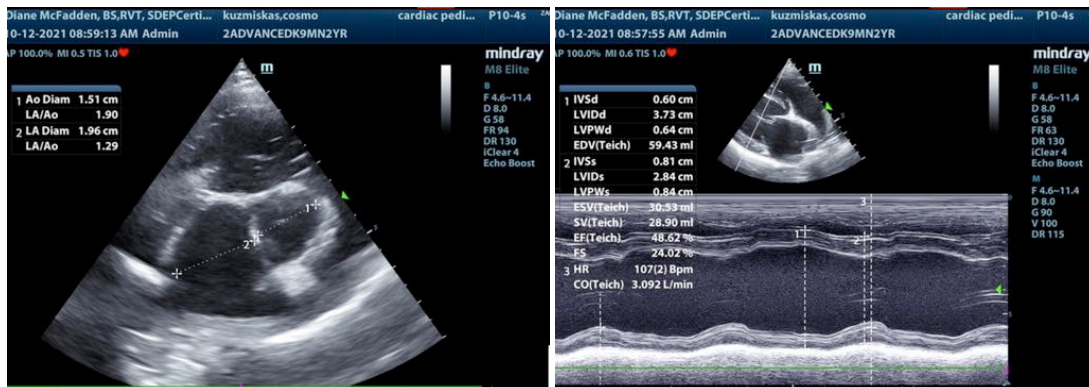
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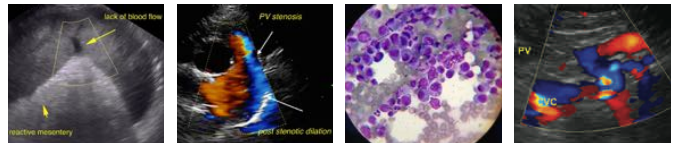
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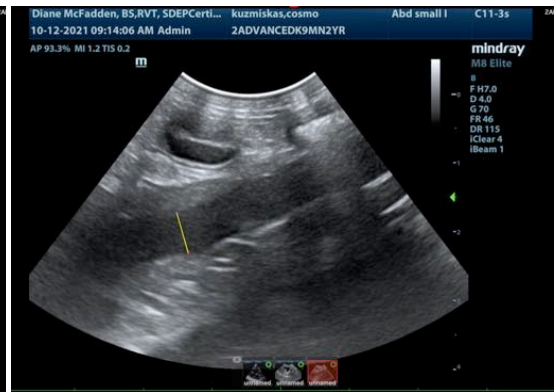
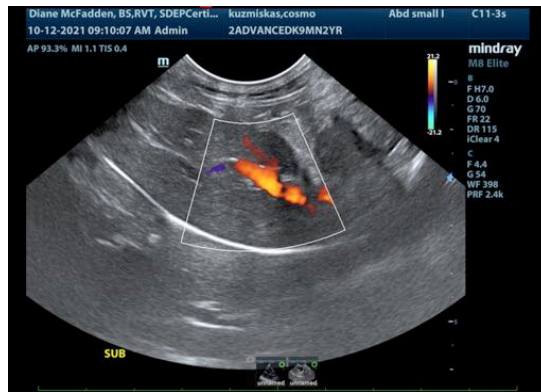
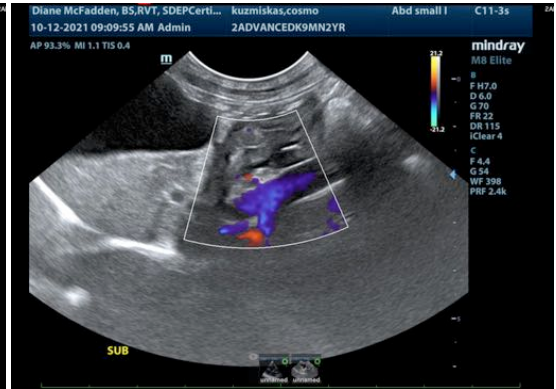
Neutered male

AGE

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WEIGHT

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The information and recommendations provided are based on the images presented by the referring veterinarian. 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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