


PATIENT PRESENTING CLINICAL SIGNS

Buddy Charles Patient with history of progressively elevating liver enzymes presents today for new seizure activity. Current meds: SQ fluids, Azodyl, and Epakatin.

SPECIES Abnormal PE/Chem/CBC/UA Results: 8/10/2022: platelets 682, SDMA 21, creat. 2.8, BUN 66, Phosphorus 6.9, potassium 5.9, Na:K ratio, anion gap 28, ALT 139, ALP 1223. 9/17/2022: HCT 37.7, Canine HBG 12.3, retics 137, retics hgb 21., platelets 804, SDMA 15, creat. 1.3, BUN 28, potassium 6.3, Na:K ratio 23, chloride 106, anion gap 29, TP 7.6, albumin 4., ALT 281, ALP 2607.

BREED ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

Bichon

SEX

Neutered Male

AGE

13 Years

WEIGHT

13 Pounds

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	6.0		1.3	1.3	30	60	0.1
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	BELOW	BELOW	BELOW	BELOW
PATIENT	131	1.55	1.2		2.2	2.36	

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Marsh Hospital for Animals

REFERRING VET

Dr. Milwicki

INVOICE

41539

DATE

9/22/22

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial mitral insufficiency noted, not clinically significant. 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. 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.

Urinary System

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 were noted. Ureteral papillae were normal. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.



PATIENT

Buddy Charles

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Cortical cysts and corticomedullary mineralization noted. The left kidney measured 3.66 cm.

SPECIES

Canine

Adrenal Glands

BREED

Bichon

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 right adrenal gland measured 1.49 cm x 0.46 cm at the caudal pole and 0.82 cm at the cranial pole.

SEX

Neutered Male

Spleen

AGE

13 Years

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 were noted.

Liver

WEIGHT

13 Pounds

The **liver** was fairly uniform with enlargement. Coalescing hypoechoic nodular changes noted with a hyperechoic 1.9 cm x 1.66 cm nodule noted in the right cranial liver, likely lipogranuloma or hyperplasia. A separate hyperechoic nodule measured 1.9 cm x 1.3 cm.

Gastrointestinal

INTERPRETED BY

Eric Lindquist, DMV

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.

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

Pancreas

HOSPITAL NAME

Marsh Hospital for Animals

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.

ULTRASONOGRAPHIC FINDINGS

REFERRING VET

Dr. Milwicki

- Very early Stage B1 valvular disease
- Moderate degenerative renal changes with cortical cysts and mineralization
- Pronounced nodular hyperplasia liver pattern, unlikely to be neoplastic

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

INVOICE

41539

No cardiac component appears to be present influencing the clinical history. Bile acid profile could be considered to assess if early hepatic dysfunction may be playing a role in the clinical signs. However, based on the clinical history, skull CT with contrast would be indicated. FNA of the liver could be considered for further definition.

DATE

9/22/22



PATIENT

Buddy Charles

SonoPath CT Services are offered at the [Blairstown Animal Hospital](#). Blairstown animal hospital is just a 30-minute drive west on route 80 from the route 80/287 interchange/Parsippany, New Jersey. More information can be found at:

SPECIES

Canine

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

BREED

Bichon

SEX

Neutered Male

AGE

13 Years

WEIGHT

13 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Marsh Hospital for Animals

REFERRING VET

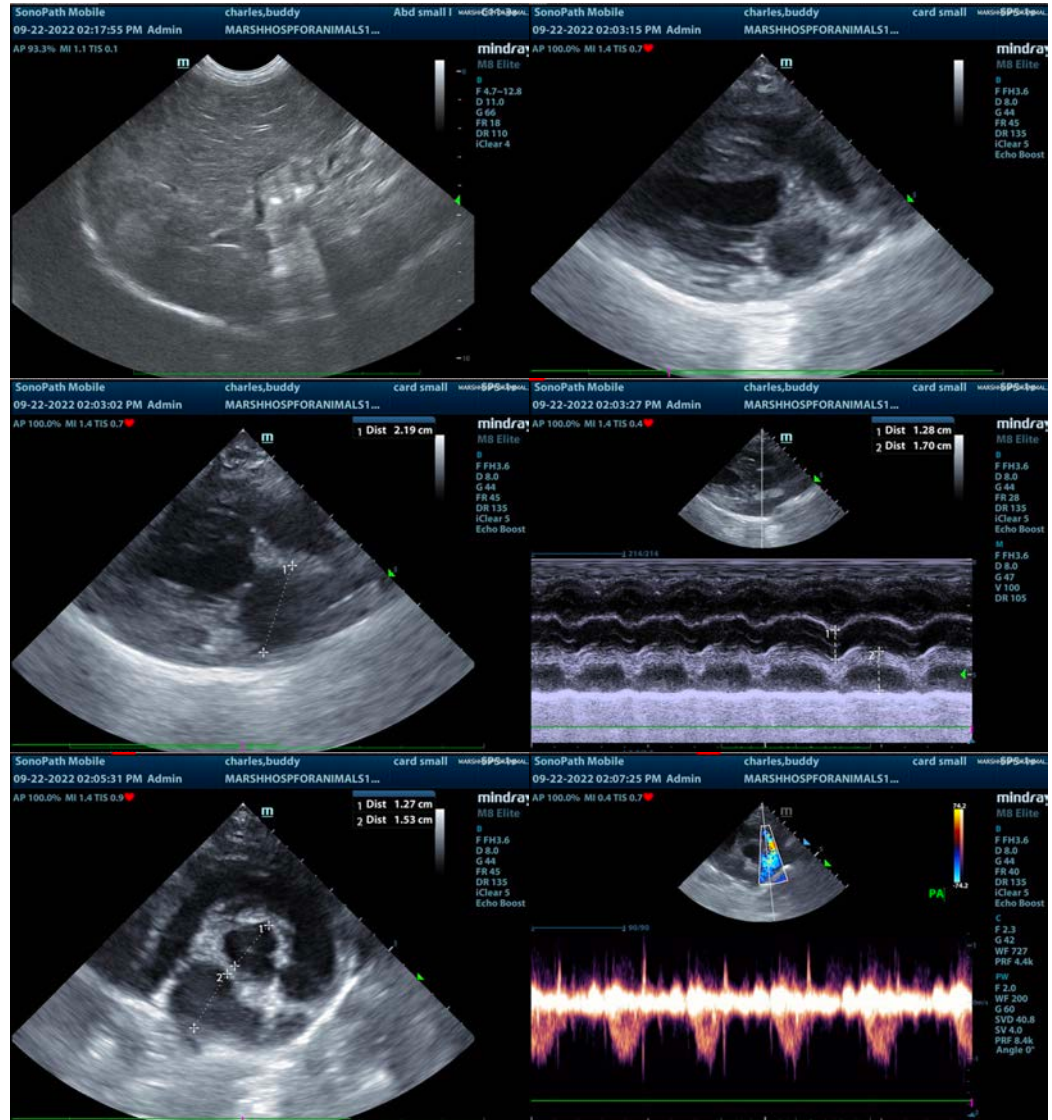
Dr. Milwicki

INVOICE

41539

DATE

9/22/22





PATIENT

Buddy Charles

SPECIES

Canine

BREED

Bichon

SEX

Neutered Male

AGE

13 Years

WEIGHT

13 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Marsh Hospital for Animals

REFERRING VET

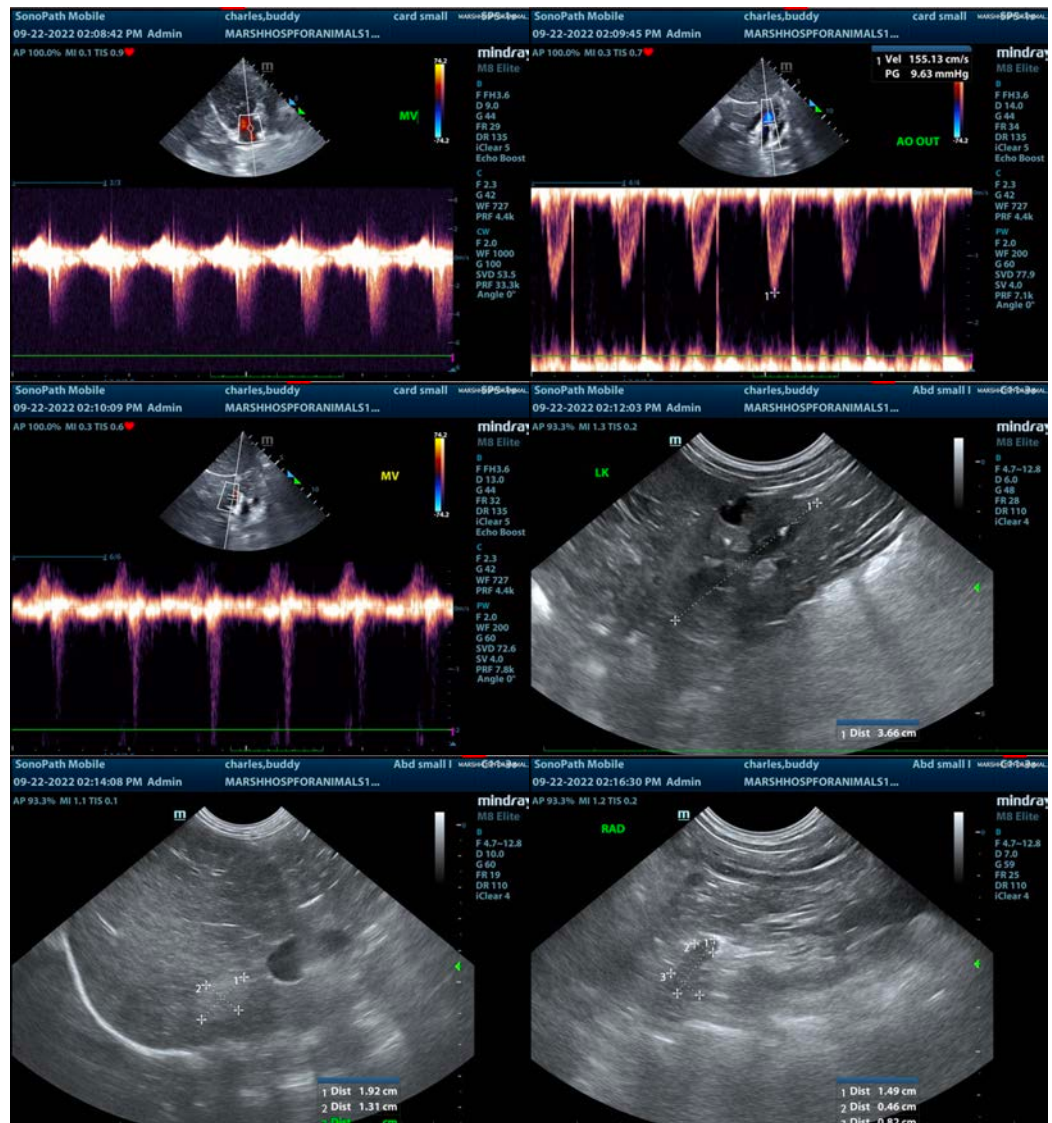
Dr. Milwicki

INVOICE

41539

DATE

9/22/22





PATIENT

Buddy Charles

SPECIES

Canine

BREED

Bichon

SEX

Neutered Male

AGE

13 Years

WEIGHT

13 Pounds

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Marsh Hospital for
Animals

REFERRING VET

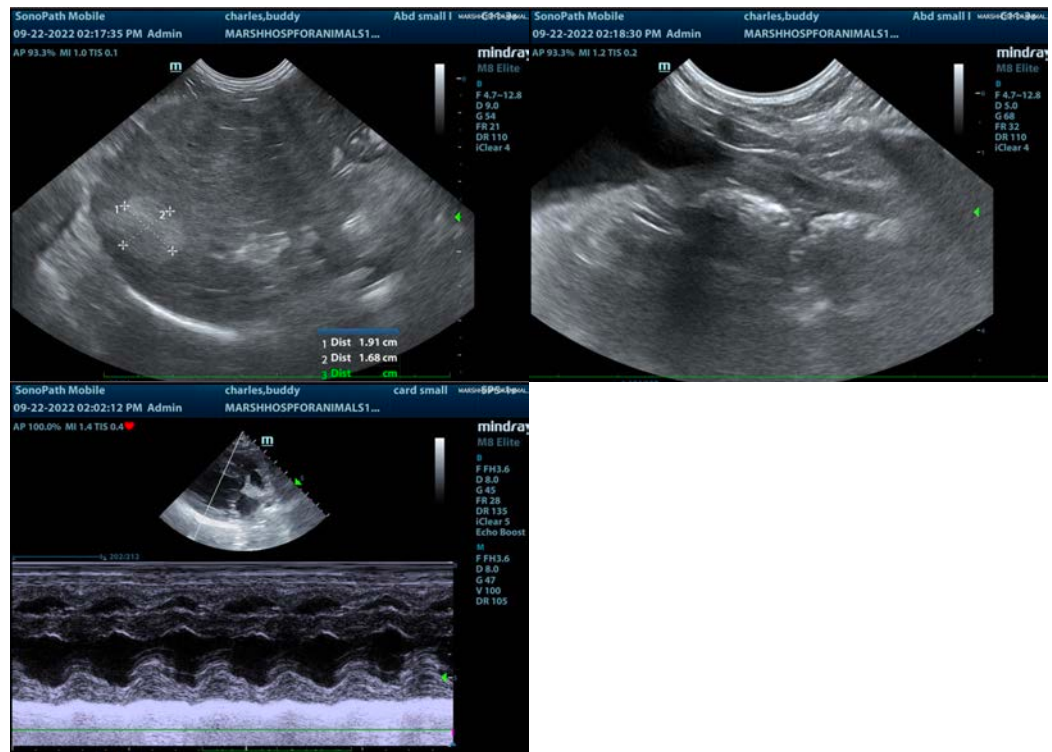
Dr. Milwicki

INVOICE

41539

DATE

9/22/22



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