



PATIENT PRESENTING CLINICAL SIGNS

Chico Fried
SPECIES History: Dyspneic, crackles auscultated bilaterally, pulmonary infiltrates and hepatomegaly on rads (rad report-bronchitis, pneumonitis). Current meds: Pimobendan 2.5mg 1/4 tab po bid, Enalapril 2.5mg 1/2 T ppo sid, Lasix 12.5mg 1/2 T po bid.
 Abnormal PE/Chem/CBC/UA Results: nsf

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

BREED

Chihuahua

SEX

Neutered Male

AGE

11 Years

WEIGHT

4.1 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	<1.3	28-40	40-100	<0.6
PATIENT	--	2.5	NM	1.2	50	85	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				
PATIENT	148	--	0.5	--	1.5	1.0	--

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Kim

INVOICE

18928

DATE

12/2/22

Cardiac Presentation

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, with minor TR on color doppler with concurrent mild increased right atrial size. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** was uniformly prominent with mildly depressed measured pulmonic velocity on PW Doppler. This prominent right heart presentation is likely due to excessive intra-thoracic pressures caused by chronic respiratory disease. The **left heart** demonstrated a linear **ventricular septum** and free wall with mild LV wall hypertrophic appearance. Contractility of the LV was adequate evidenced by the FS% measurement. The **mitral valve** was mildly thickened with potential for minor prolapse. Mild MR was present on doppler. Normal left atrium size was noted. The **left ventricular outflow** demonstrated normal flow patterns and velocities through the aortic valve. No overt evidence of cardiac tumors, pericardial or pleural effusion was noted. The visible **extra-cardiac** tissues and pulmonary parenchyma were indistinctly visualized owing to pericardial pulmonary comet tail artifact without overt evidence of masses. No evident arrhythmic activity was noted during the exam.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of – cm exhibited normal thickness and tone. 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. No evidence of inflammatory or neoplastic changes were noted.



PATIENT	Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 2.9 cm in length. The right kidney measured 2.8 cm in length. Pinpoint medullary mineral and small cortical cysts were noted bilaterally.
Chico Fried	
SPECIES	
Canine	Adrenal Glands
BREED	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.32 cm width at the caudal pole and 0.31 cm width at the cranial pole.
Chihuahua	The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.29 cm width at the caudal pole and 0.31 cm width at the cranial pole.
SEX	Spleen
Neutered Male	The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. 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	
11 Years	Liver
WEIGHT	The liver presented mildly enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. Transdiaphragmatic comet tail artifact was noted.
4.1 Pounds	
INTERPRETED BY	The gallbladder was non distended in size with mild nondependent echogenic debris. No evidence of gallbladder or peripheral gallbladder inflammation. The cystic duct and common bile ducts were normal without evidence of dilation.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	
IMAGING PERFORMED BY	Gastrointestinal
Shari Reffi, CVT	The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained moderate variably echogenic ingesta without signs of mechanical pyloric outflow obstruction.
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.
Newton VH	
REFERRING VET	Normal visible colon wall layers were present with apparent formed feces in lumen.
Dr. Kim	Pancreas
INVOICE	The parenchyma of the pancreas base and right pancreatic limb 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.
18928	
DATE	Free Abdomen
12/2/22	



PATIENT No omental masses, lymphadenopathy or peritoneal effusion was present.

Chico Fried

ULTRASONOGRAPHIC FINDINGS

SPECIES

Canine

BREED

Chihuahua

SEX

Neutered Male

AGE

11 Years

WEIGHT

4.1 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Kim

INVOICE

18928

DATE

12/2/22

- Static to mild progressive cor pulmonale
- Mild TR- estimated pulmonary pressure gradient approximately 25 mmHg based on measured TR velocity suggestive of mild increased pulmonary pressure yet not overtly consistent with clinical pulmonary hypertension
- Compensated MR, normal LA
- Suspect mild LV pseudohypertrophy- likely owing to diuretics
- Non-congestive mild hepatomegaly- subjective vacuolar hepatopathy pattern
- Transdiaphragmatic comet tail artifact
- Gallbladder debris (non-mucocele)
- Bilateral chronic renal changes with cortical cysts
- Chronic pancreatitis/pancreatic fibrosis pattern

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although the previously noted cor pulmonale appeared to be potentially mildly progressive compared to the previous study, no evidence of right heart failure or overt clinical pulmonary hypertension in light of lack of hepatic vascular congestion and measured TR velocity was noted. The cor pulmonale continues to suggest secondary increased right heart pressure owing to primary pulmonary disease.

Continued primary respiratory support is recommended with assessment of clinical response, radiographic monitoring, as well as monitoring for evidence of potential emerging right heart failure or clinical pulmonary hypertension. Recheck echocardiogram if evidence of RHF or strong suspicion for progressive clinical pulmonary hypertension. Guarded prognosis.



PATIENT

Chico Fried

SPECIES

Canine

BREED

Chihuahua

SEX

Neutered Male

AGE

11 Years

WEIGHT

4.1 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton VH

REFERRING VET

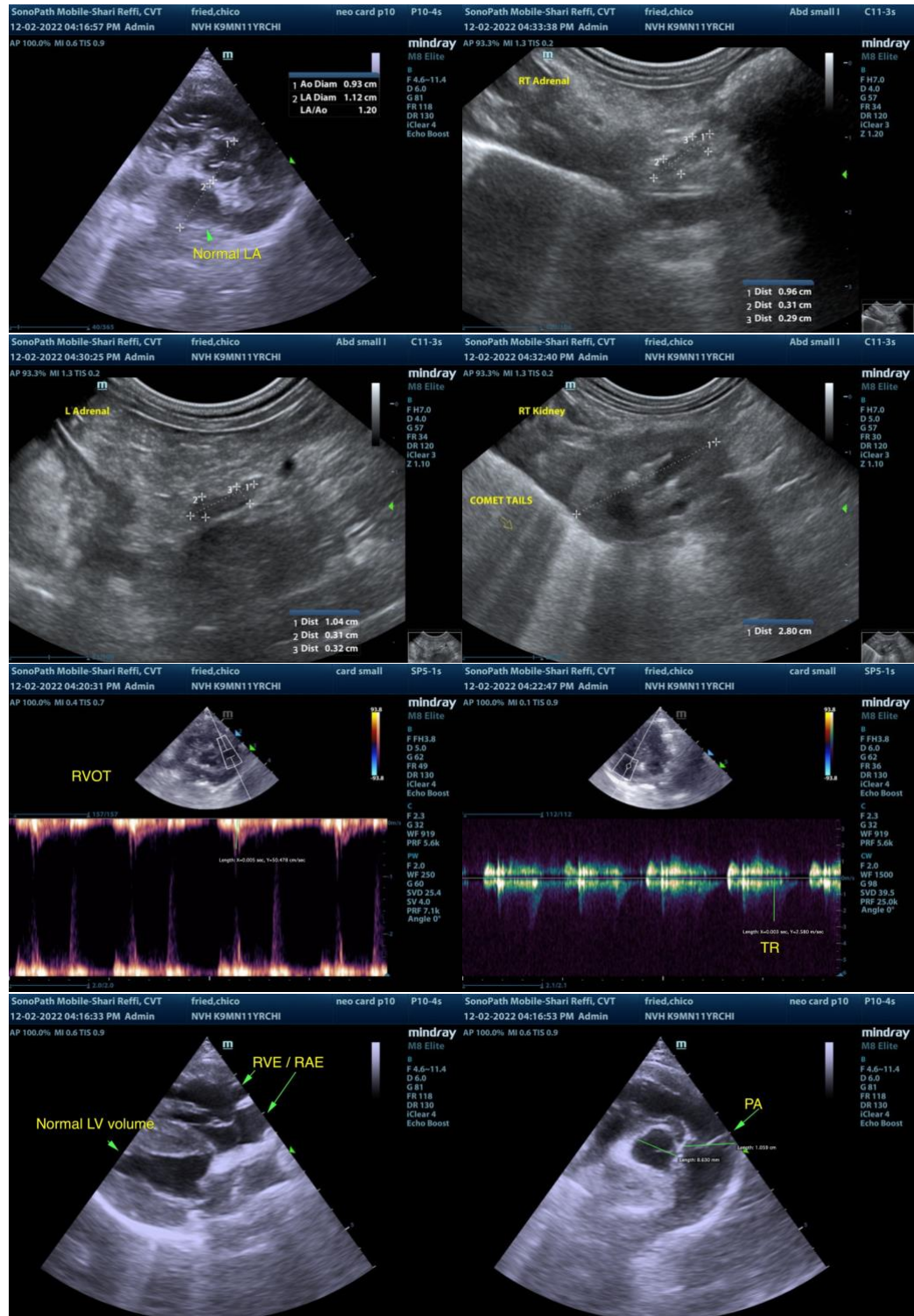
Dr. Kim

INVOICE

18928

DATE

12/2/22





PATIENT

Chico Fried

SPECIES

Canine

BREED

Chihuahua

SEX

Neutered Male

AGE

11 Years

WEIGHT

4.1 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton VH

REFERRING VET

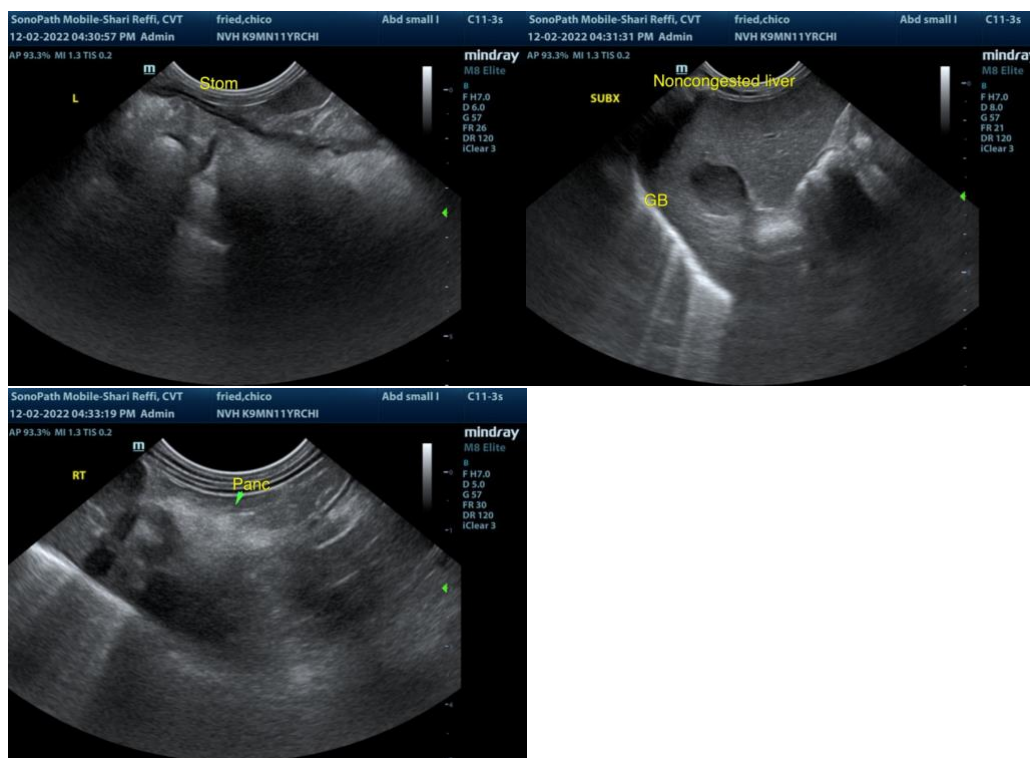
Dr. Kim

INVOICE

18928

DATE

12/2/22



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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com