



## PATIENT PRESENTING CLINICAL SIGNS

Frank Rojas lethargic, limping, thrombocytopenia, febrile anaplasmosis + elevated liver values R/O steroid hepatopathy vs underlying dz Current meds Unasyn Doxy, P lyte Temaril P  
 Abnormal PE/Chem/CBC/UA Results: Lymph 0.66 Mono 1.29 Eosin 0.01 Platelets 67 ALP 1884 remainder WNL

## SPECIES

Canine

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

## BREED

Pug

## SEX

Neutered Male

## AGE

11 Years

## WEIGHT

24 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			1.0	--	35	--	NM
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	--	--	0.6		2.0	2.0	

## INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Jenn

## HOSPITAL NAME

Rockaway AH

## REFERRING VET

Dr. Ascot

## INVOICE

37603

## DATE

5/11/22

### Cardiac Presentation

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, without significant **tricuspid** regurgitation, and normal **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 pulmonic velocity measured on PW Doppler. No overt heartworms were noted in the main or visible deep pulmonary arteries. Yet, theoretically heartworms could be present in the deep pulmonary vasculature out of visible sonographic range. More likely, however, this prominent right heart is due to excessive intra-thoracic pressures caused by chronic respiratory disease or potentially excessive intra-thoracic fat (Pickwickian syndrome). The **left heart** demonstrated a linear **ventricular septum**. Contractility was functionally adequate demonstrated by the FS% measurement. The **mitral valve** was not significantly insufficient and no significant **left atrial** dilation was noted. The **left ventricular outflow** demonstrated normal flow patterns and velocities through the aortic valve. No evidence of tumor, pericardial or pleural effusion was noted. The visible **extra-cardiac** tissues were uniformly linear without evidence of masses, infiltrative or inflammatory mediastinal tissue. Occasional arrhythmia noted in this patient.

### 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.



**PATIENT**

Frank Rojas

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. The left kidney measured 4.52 cm. The right kidney measured 4.52 cm.

**SPECIES**

Canine

**Adrenal Glands**

**BREED**

Pug

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.

**SEX**

Neutered Male

**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 were noted.

**AGE**

11 Years

**Liver**

The **liver** was uniformly swollen with minor, excessive gallbladder debris and over distension with dependent and suspended bile without evidence of overt mucocele formation. However, excessive sludge was present. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia.

**WEIGHT**

24 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV

DABVP, Cert. IVUSS

**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.

**IMAGING PERFORMED BY**

Jenn

**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.

**HOSPITAL NAME**

Rockaway AH

**ULTRASONOGRAPHIC FINDINGS**

**REFERRING VET**

Dr. Ascot

- Cor pulmonale
- Age related renal changes
- Benign hepatopathy with mild remodeling

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**INVOICE**

37603

No evidence of significant disease. No cardiac disease to be responsible for any respiratory signs, if present. CBC path review, Doxycycline/Clindamycin trial recommended +/- bone marrow aspirate if thrombocytopenia does not resolve on medical management.

**DATE**

5/11/22



**PATIENT**

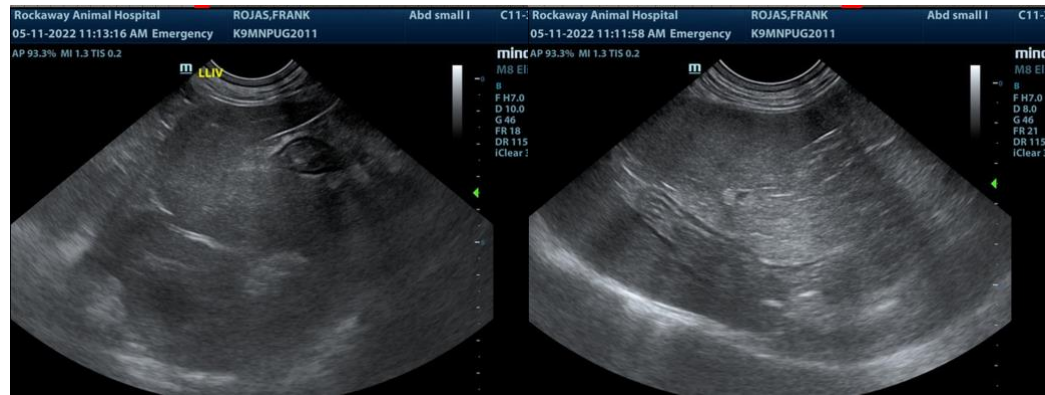
Frank Rojas

**SPECIES**

Canine

**BREED**

Pug



**SEX**

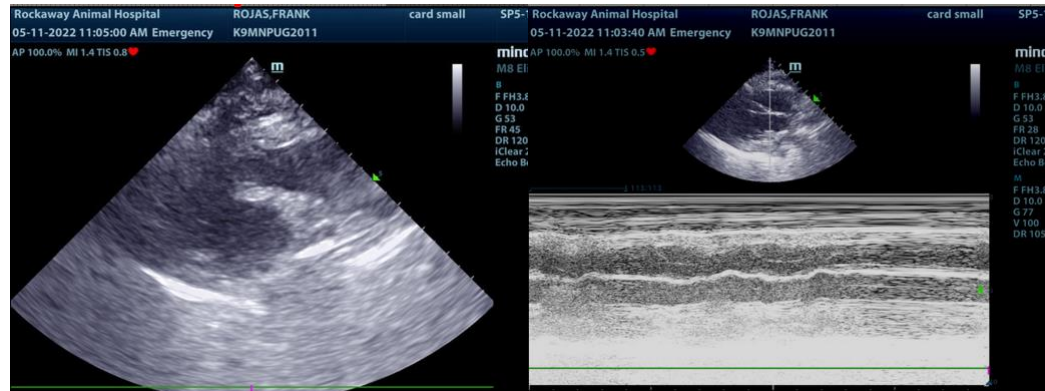
Neutered Male

**AGE**

11 Years

**WEIGHT**

24 Pounds



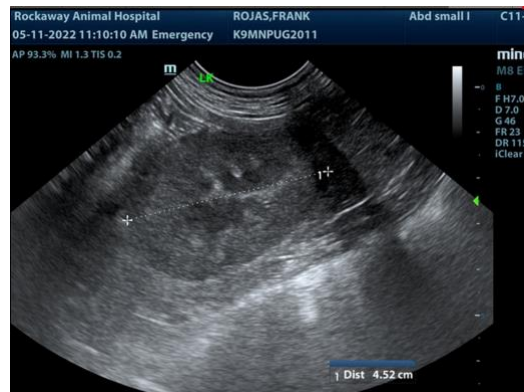
**INTERPRETED BY**

Eric Lindquist, DMV

DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Jenn



**HOSPITAL NAME**

Rockaway AH

**REFERRING VET**

Dr. Ascot

**INVOICE**

37603

**DATE**

5/11/22

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](mailto:info@SonoPath.com)