



**PATIENT PRESENTING CLINICAL SIGNS**

**Oliver Orr** History: Patient presented for tachypnea, cardiac murmur 5/6, hypertension 240/220 (231). Started on Pimobendan 2.5 mgs BID, enalapril 2.5 mgs BID, Lasix.  
 Abnormal PE/Chem/CBC/UA Results: Bloods, U/A declined at this time.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**BREED**

Shih Tzu mix

The echocardiogram in this patient presented fairly normal left atrial size with compensated mitral insufficiency and concentric thickening of the left ventricle with adequate contractility. Flattening of the left ventricular septum was also noted. The right heart presented moderate eccentric hypertrophy with tricuspid insufficiency. Tricuspid valve was significantly vegetative. Right atrial enlargement was present. There was no pericardial or pleural effusion present. The hepatic veins were not dilated; however, severe right atrial enlargement was present. I cannot rule out the potential of an atrial septal defect as significant artifact was present in the heart in the area of the atrial septum. The patient was significantly tachycardic with respiratory distress impeding complete visibility.

**SEX**

Neutered male

**AGE**

11 years

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			NM				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				
PATIENT					2.5 max		

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kelly Vazquez, CVT

**HOSPITAL NAME**

Westwood Regional VH

**REFERRING VET**

Dr. McConnell

**ULTRASONOGRAPHIC FINDINGS**

Mitral and tricuspid insufficiency with severe right-sided cardiac enlargement.

Left-ventricular concentric hypertrophy can be justified by the systemic hypertension.

Right atrial enlargement with right ventricular hypertrophy. Differentials include tricuspid insufficiency as primary or secondary disease; however, atrial septal defect with left to right shunting and pulmonic stenosis as well as reverse PDA are all potentials.

**INVOICE**

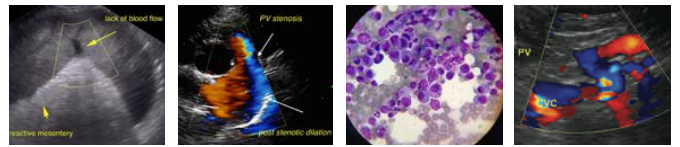
96667

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**DATE**

3/9/22

Bubble study is recommended in this patient to assess for atrial septal defect, but also consideration for reverse patent ductus arteriosus. Assessment for paradoxical cyanosis is warranted under exercise. Anti-hypertensives such as Amlodopine should be added to the current protocol as well as



**PATIENT**

Spironolactone at 1-2 mg/kg b.i.d. This patient is at high risk for sudden death. CBC should be evaluated for hemoconcentration. The prognosis is very guarded.

Oliver Orr

**SPECIES**

Canine

**BREED**

Shih Tzu mix

**SEX**

Neutered male

**AGE**

11 years

**WEIGHT**

11.24 lbs

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kelly Vazquez, CVT

**HOSPITAL NAME**

Westwood Regional  
VH

**REFERRING VET**

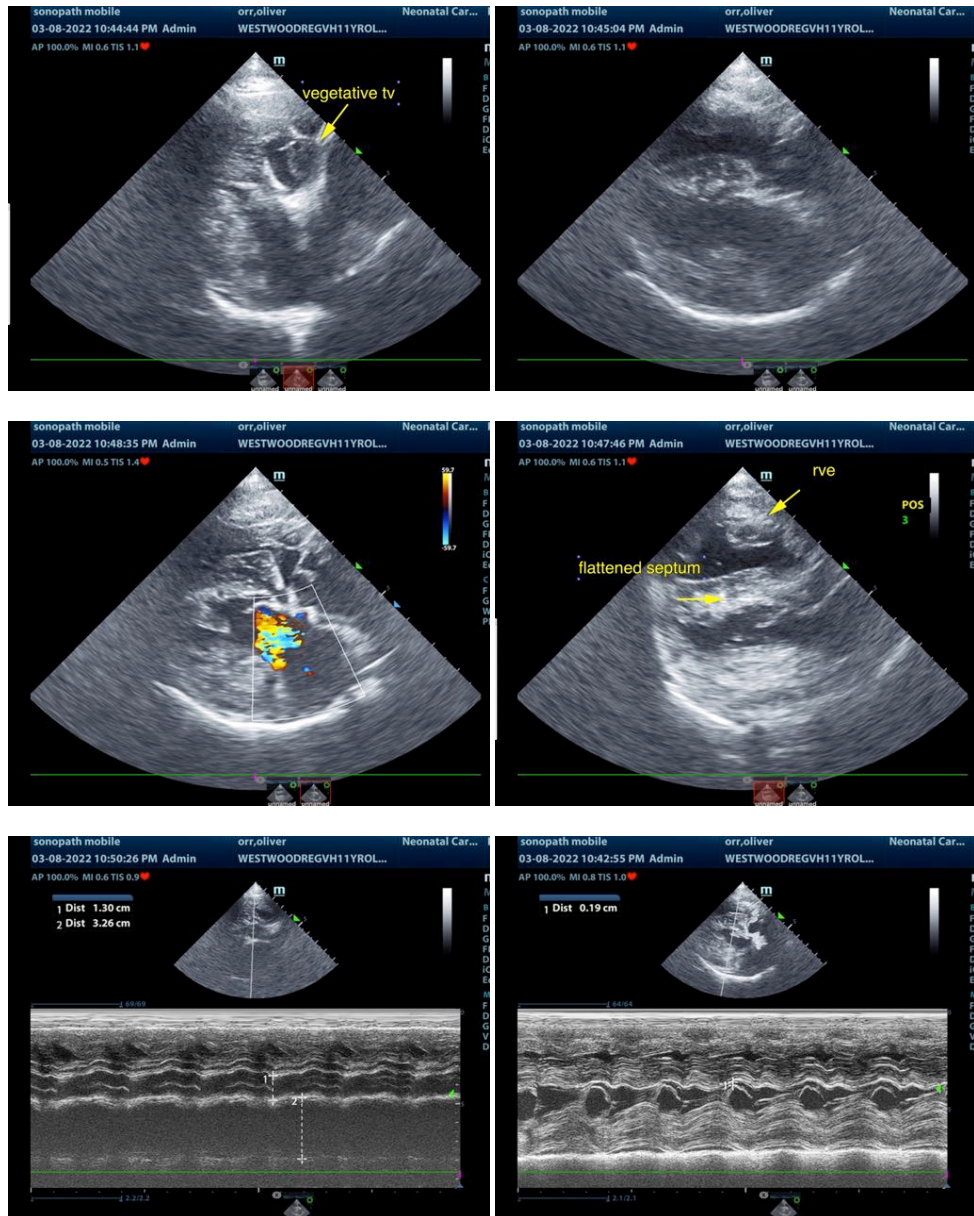
Dr. McConnell

**INVOICE**

96667

**DATE**

3/9/22





**PATIENT**

Oliver Orr

**SPECIES**

Canine

**BREED**

Shih Tzu mix

**SEX**

Neutered male

**AGE**

11 years

**WEIGHT**

11.24 lbs

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kelly Vazquez, CVT

**HOSPITAL NAME**

Westwood Regional  
VH

**REFERRING VET**

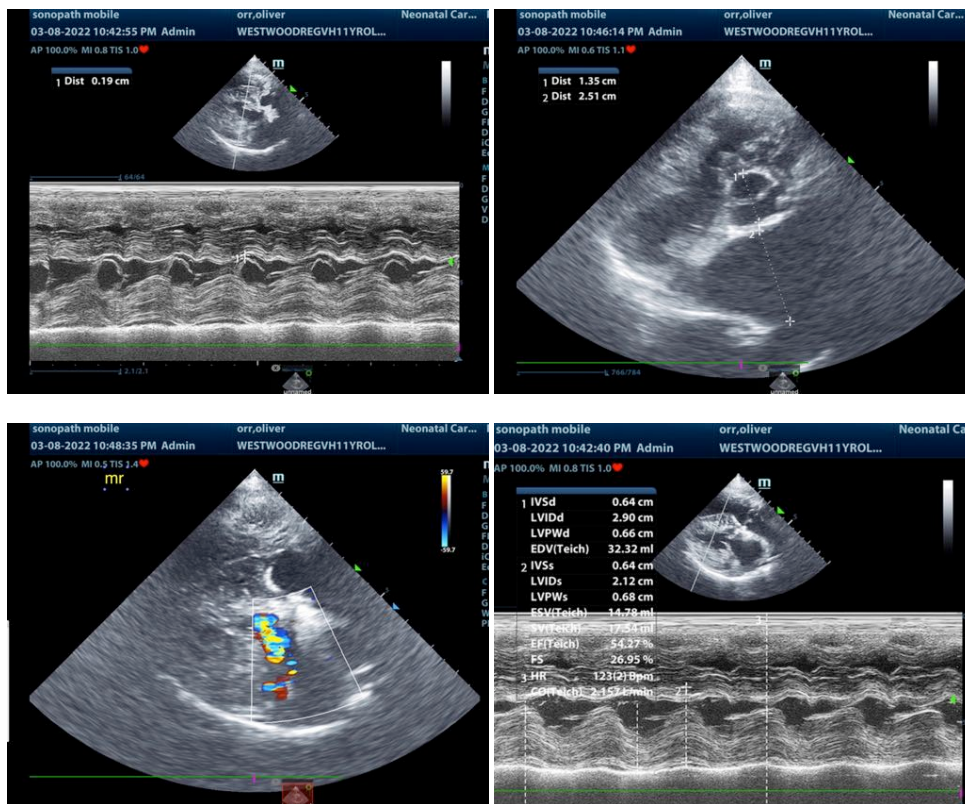
Dr. McConnell

**INVOICE**

96667

**DATE**

3/9/22



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