

PATIENT PRESENTING CLINICAL SIGNS

Momo Chan

SPECIES

Canine

BREED

Pekingese

SEX

Spayed female

AGE

14 years

WEIGHT

5.3 kg

INTERPRETED BY

Eric Lindquist, DMV,
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jenna Walsh CVT

HOSPITAL NAME

Wilvet of Salem

REFERRING VET

Dr. Gardner

DATE

8/4/22

Invoice

32172

History: Increased respiratory rate and effort Crackles and harsh lung sounds Heart murmur Chronic changes to right eye difficult to auscult, possible arrhythmia on presentation, not present after butorphanol Current Medications Furosemide 1mg/kg q2 PRN

Abnormal PE/Chem/CBC/UA Results: Radiographic Findings The cardiac silhouette is enlarged causing dorsal deviation of the trachea. There is an impression of rounding of the right atrioventricular region. The visible pulmonary lobar arteries and veins are normal. There is an unstructured interstitial pattern in the left caudal lung lobe. The pulmonary parenchyma is difficult to critically evaluate due to hypoinflation, patient rotation, and the patient's thoracic wall conformation. There is narrowing of the carina and mainstem bronchi on the right lateral image. There is no evidence of esophageal dilation. There is also no evidence of intrathoracic lymphadenopathy or any abnormalities of the pleural space. The stomach is moderately gas distended. There are small mineral opacity structures in the right cranial dorsal abdomen. These structures may be within the gastrointestinal tract or within the right kidney. The right renal margins are not the distinctly identified. There is a sharply marginated, rounded, 3.3 cm x 2.8 cm, soft tissue opacity mass superimposed with or at the tail region of the spleen on the ventrodorsal image. There is a microchip in the dorsal thoracic soft tissues. There is dorsal deviation of the xiphoid. There is atypical curvature of the costal cartilages.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, with **tricuspid** regurgitation, yet 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** revealed insufficiency, yet was compensated. There is no significant **left atrial** dilation. 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. No evident arrhythmic activity was noted during the exam. Comet tail lung pattern was noted in the peripheral lung fields.



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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		4.0	1.1		47	82	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	137	1.0	0.76	5.3 kg	2.08	1.7	

ULTRASONOGRAPHIC FINDINGS

Severe tricuspid insufficiency was noted.

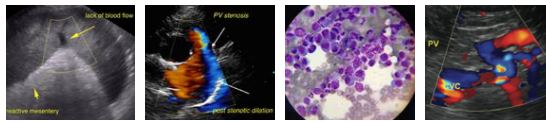
Mild hepatic vein dilation.

Pulmonary hypertension.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient was in respiratory distress at the time of the sonogram. Primary respiratory disease and acute on chronic crisis such as pneumonitis, SARDs, thromboembolic episodes should all be considered. Primary respiratory protocol is warranted with bronchodilator and broad spectrum antibiotics such as Zithromax or Enrofloxacin. Sildenafil can be initiated at 1 mg/kg b.i.d. at the moment. A recheck echocardiogram is recommended in 2-4 weeks. Blood pressure measurements are warranted. The left heart is normal to subnormal in size. There was no evidence of primary heart failure present. Furosemide can be changed to Spironolactone at 1-2 mg/kg b.i.d.





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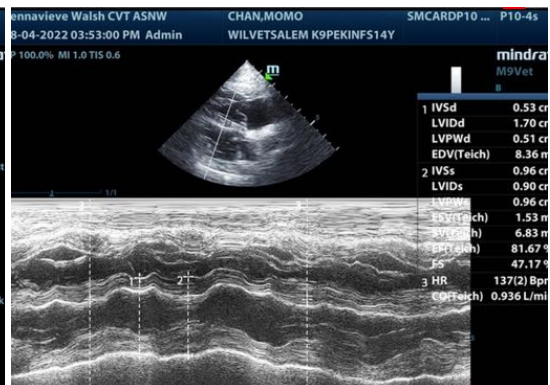
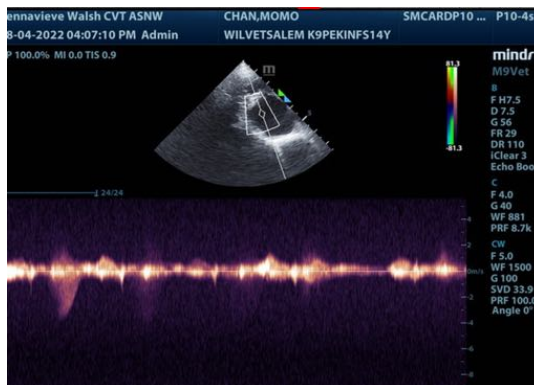
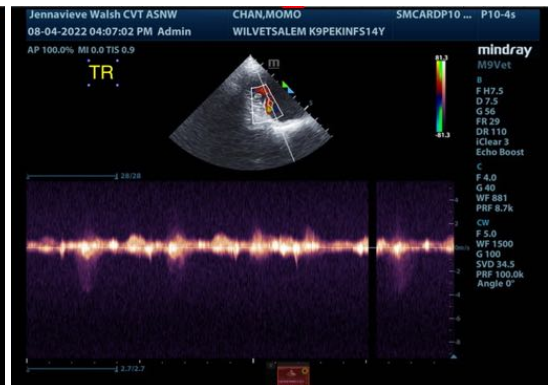
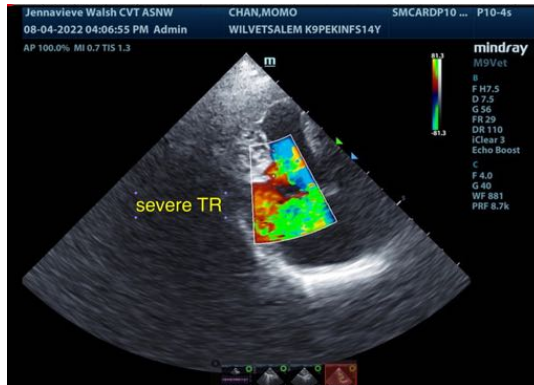
Dr. Gardner

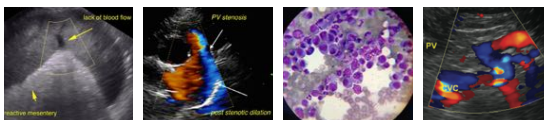
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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