

PATIENT PRESENTING CLINICAL SIGNS

Meep Mitchum

SPECIES

Canine

BREED

Yorkie

SEX

Intact female

AGE

8 years

WEIGHT

1.5 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Andrea Nicastro, DVM,
Diplomate ACVIM
(Small Animal Internal
Medicine)

HOSPITAL NAME

Veterinary Special-

REFERRING VET

Dr.

INVOICE

1156

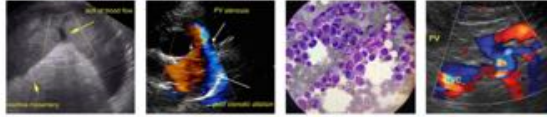
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5/23/22

Meep is an 8 year old intact female Yorkshire Terrier that presented for decreased app/water intake and difficulty breathing. O reports for the past couple of days, Meep has had a decreased appetite and water intake. Today, Meep started heavy panting and her tongue turned purple. When walking, Meep seemed "woozy" per o. After napping, Meep started heavy breathing again. O noticed "crackling" sounds when panting. O noticed darker urine today. O reports Meep has been more frail over the past year. v-/d-/c-/s- Indoor only Meds: Zyrtec or Claritin daily Prior medical issues: enlarged heart dx a few years ago (no historical murmur or meds given), severe allergies w/ alopecia, and protein loosing enteropathy in 2026 tx with hydrolyzed diet and protein levels have been low normal since then (no current tx) PE: Mentation: Quiet, distress, lethargic, and responsive. Hydration: Adequately hydrated Eyes, Ears, Nose: No ocular discharge OU; no nasal discharge and airflow present bilaterally; mild debris AU; no significant abnormalities noted Oral Cavity: Grade 2/4 periodontal disease; mucous membranes are pigmented, cyanotic and moist; CRT 2 sec; no evidence of petechiation or ulceration; no foreign object or mass appreciated Cardiovascular: No murmur or arrhythmia noted, pulses were strong and synchronous. Respiratory: Repsiratory distress, Tachypnea, dyspnea, crackles/harsh bronchovesicular sounds on all lung fields, no cough elicited on tracheal palpation Neurologic: No pain elicited on manipulation and palpation of neck and spine; no obvious neurologic deficits noted (complete neurologic exam not performed). Gastrointestinal/Urogenital: Soft and non-painful abdomen with no evidence of mass or organomegaly on palpation Rectal: Soft yellow/green stool Peripheral Lymph Nodes: Small, soft, smooth, and symmetrical Integument: Mild generalized alopecia, hyperpigmentation (historical atopy) Musculoskeletal: BCS 5/9, adequate musculature, no evidence of weakness or lameness during ambulation; no obvious orthopedic abnormalities noted (complete orthopedic exam not performed).

Abnormal PE/Chem/CBC/UA Results: CBC- Mildly increased WBC, neut, Hct 60s Chem- mildly decreased creat, amyl, cl HR/RR/BP - 150 50 NA Rads: Findings: 4 total images-lateral and VD thorax/abdomen. Thorax: The cardiac silhouette measures overall normal size (10v VHS). There is straightening of the caudal dorsal margin in the region of the left atrium. The pulmonary vessels are at the upper limits of normal size. There is a diffuse moderate broncho-interstitial pattern in the lungs. The cranial thoracic trachea is focally more narrow than other areas on the left lateral view. The mainstem bronchi are more narrow on the left lateral view than right lateral view. The pleural spaces and esophagus are unremarkable. Abdomen: (Caudal-most abdomen is incompletely included). The liver and spleen are normal for size and margination. The stomach is moderately distended with gas and fluid. The small intestine are normal diameter with diffuse luminal gas. The colon has formed feces. The urinary bladder is not included. The kidney margins are partially obscured due to summation with bowel. They are subjectively normal size. There are multiple angular mineral opacities superimposed with the hilar area of both kidneys. The abdominal serosal detail is unremarkable given the thin body condition. There are fractures in the right 8-10th ribs and left 8-11th ribs. There is proliferation along the margins of the fractures. Assessment: Equivocal mild left atrial enlargement (such as with valvular disease).

Correlation with cardiac auscultation, echocardiography and ECG could be considered. Pulmonary infiltrates - differentials include bronchitis/pneumonitis (i.e. allergic, infectious, parasitic or inhaled irritant causes) or possibly peribronchial cuffing from early pulmonary edema. Given the report of cyanosis, pulmonary thromboembolism cannot be excluded as radiographic findings can vary. Slight variation in tracheal diameter could be incidental, although given the breed, tracheal collapse syndrome is not excluded. Narrow appearing mainstem bronchus could be accentuated by projection are also associated with tracheal collapse syndrome. If cough elicited with tracheal palpation fluoroscopy would be helpful. Imaging of the upper airways could also be considered to evaluate for other causes of dyspnea. Nephroliths and/or renal parenchymal mineralization. GI gas distention may be secondary to aerophagia; less likely ileus/dysmotility. Healing rib fractures. Dr. Lisa Zekas



PATIENT **ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

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The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. 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.

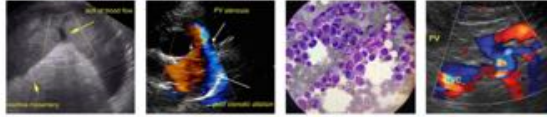
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	-	-	1.15	1.2	45		0.2
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis 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		1.3	0.7	1.5	2.0 max	1.72	

ULTRASONOGRAPHIC FINDINGS

Normal echocardiogram.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There was no evidence of primary disease responsible for the clinical history. Focus should be on the respiratory tract as the heart is not a clinical issue.



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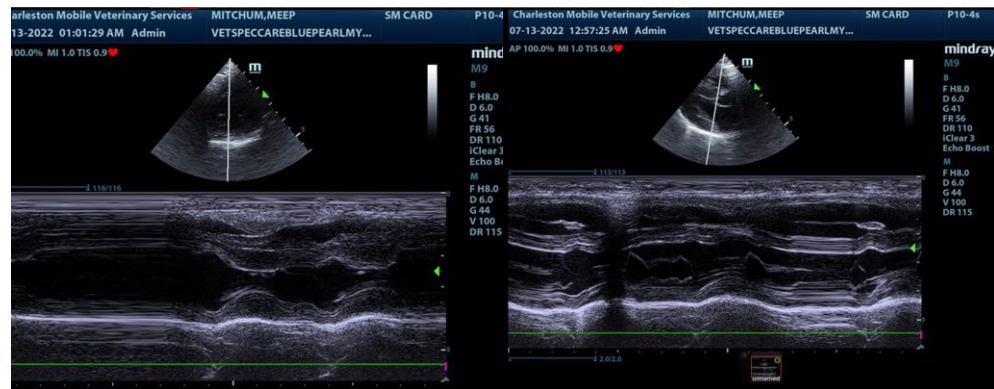
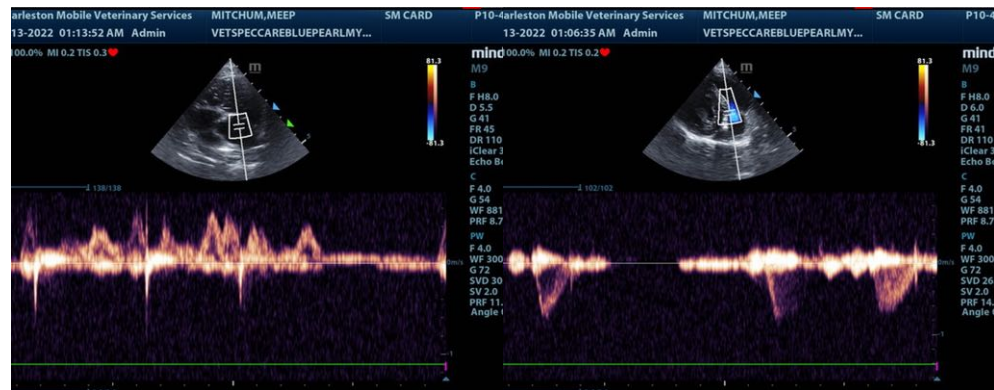
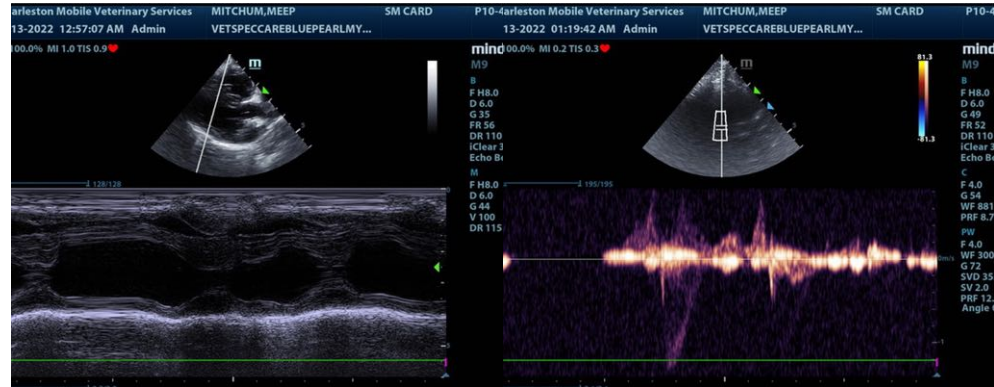
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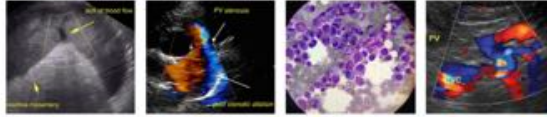
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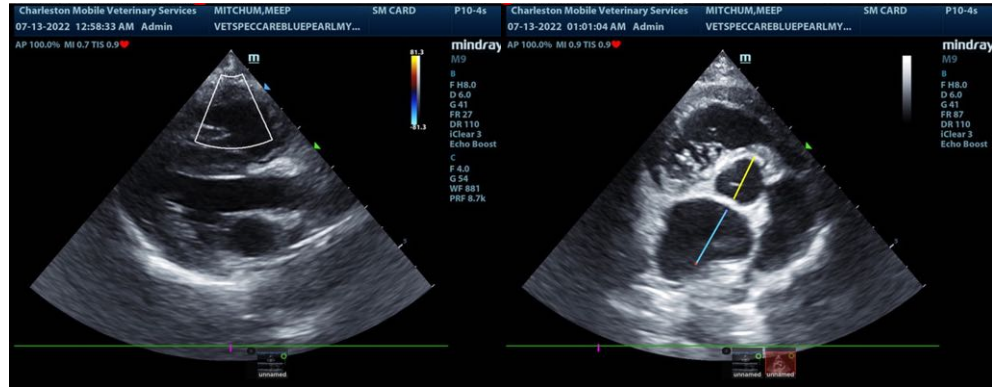
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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