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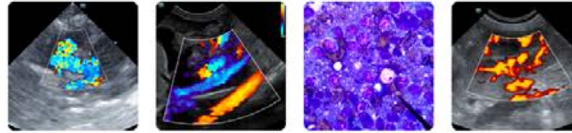

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DATE

6/1/26

PATIENT

Bella Marie Pencek

SPECIES

Canine

BREED

Beagle x

SEX

Spayed Female

AGE

5/30/16

WEIGHT

44.5 lbs

INTERPRETED BY

Brad Harris, DVM, DACVECC, DACVIM (cardiology)

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Kalinowski

INVOICE

75584

PRESENTING CLINICAL SIGNS

History: October 2025: developed cough, gained 7 pounds, diagnosed with collapsed trachea -Treated with Lasix for 2 weeks with improvement, but cough returned in November - November 2025: second course of Lasix, blood work showed elevated liver enzymes - Prescribed hydrocodone for coughing fits - March 2026: gained additional 4 pounds, coughing and wheezing worsened - Chest radiographs showed enlarged heart, described as "touch of respiratory thing" - April 2026: severe respiratory distress with gasping and abdominal distension - Cushing's disease testing performed - negative results. May 1, 2026: increased lethargy and nocturnal crying/scratching behavior - May 18, 2026: chest radiographs and abdominal ultrasound showed enlarged
liver, enlarged heart, and "mucky" lungs - Recent treatment: Lasix 12.5mg BID and doxycycline 100mg BID for 10 days (completed May 28,2026) - Current medications: gabapentin for leg pain, hydrocodone PRN for cough - Progressive worsening since completing Lasix course: increased wheezing, restlessness, hiding under bed, reluctance to go outside - Today: severe panting, excessive drooling, tongue protrusion, cough-gagging with minimal activity, difficulty breathing in car

Pertinent abnormal PE/Chem/CBC/UA Results: Furosemide, Gabapentin, Pimobendan, Denamarin.
Current medications: Labwork attached.
Blood Pressure: N/A.
Sedation used: Not required to complete full diagnostic ultrasound.
Pertinent previous ultrasound results: No previous.
STAT: Requested.
Imaging performed by: Stephanie Warga RDCS, RVT.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	BW	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	20.23	NM	3.20	2.72	1.49	2.99	1.70
CANINE CARDIAC PARAMETERS	**FS**	**EPSS**	**PV V MAX (m/s)**	**AV V Max (m/sec)**	**MR Vmax**	**TR Vmax**	**RPA distensibility (normal >30%)**
NORMAL PARAMETER	28-40	<0.6	0.7-1.6	0.7-1.7	4.5-5.5	< 2.7	
PATIENT	43	0.1	1.3	1.8	6.4	3.2	27

Cardiac Presentation

The left atrium is normal in dimension. The left ventricle is normal in dimension, with normal systolic function. The right atrium and ventricle are normal in dimension, with normal systolic function. The anterior and posterior mitral valve leaflets are thickened and redundant consistent with myxomatous changes, and there

is no significant prolapse. There is trivial mitral regurgitation identified. The tricuspid valve leaflets are minimally thickened, with mild tricuspid regurgitation and evidence of at least mild pulmonary hypertension. The left ventricular outflow tract demonstrated normal laminar flow and the visible aorta is unremarkable. The right ventricular outflow tract assessment revealed normal laminar flow, with appropriate main pulmonary artery diameter and right pulmonary artery distensibility. There is no pulmonic and no aortic valve insufficiency identified. There is no visible pericardial, pleural, or free peritoneal fluid documented. No evidence of hepatic venous congestion is noted. The cardiac chambers, pericardial and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.

ULTRASONOGRAPHIC FINDINGS

These findings identify at least pulmonary hypertension (PH) in the absence of any clinically relevant left sided disease, making the PH more likely related to primary respiratory disease or other etiology (non-type 2 PH). Pulmonary hypertension in dogs is most commonly secondary to primary respiratory disease (chronic bronchitis, pulmonary fibrosis, or other forms of pulmonary interstitial disease). Pulmonary hypertension can also develop in dogs with severe heartworm disease or secondary to pulmonary thromboembolism (PTE). Less commonly, pulmonary hypertension is identified in dogs as an idiopathic condition. Pulmonary hypertension commonly causes syncope, and a patient’s signs may be attributable to this condition.

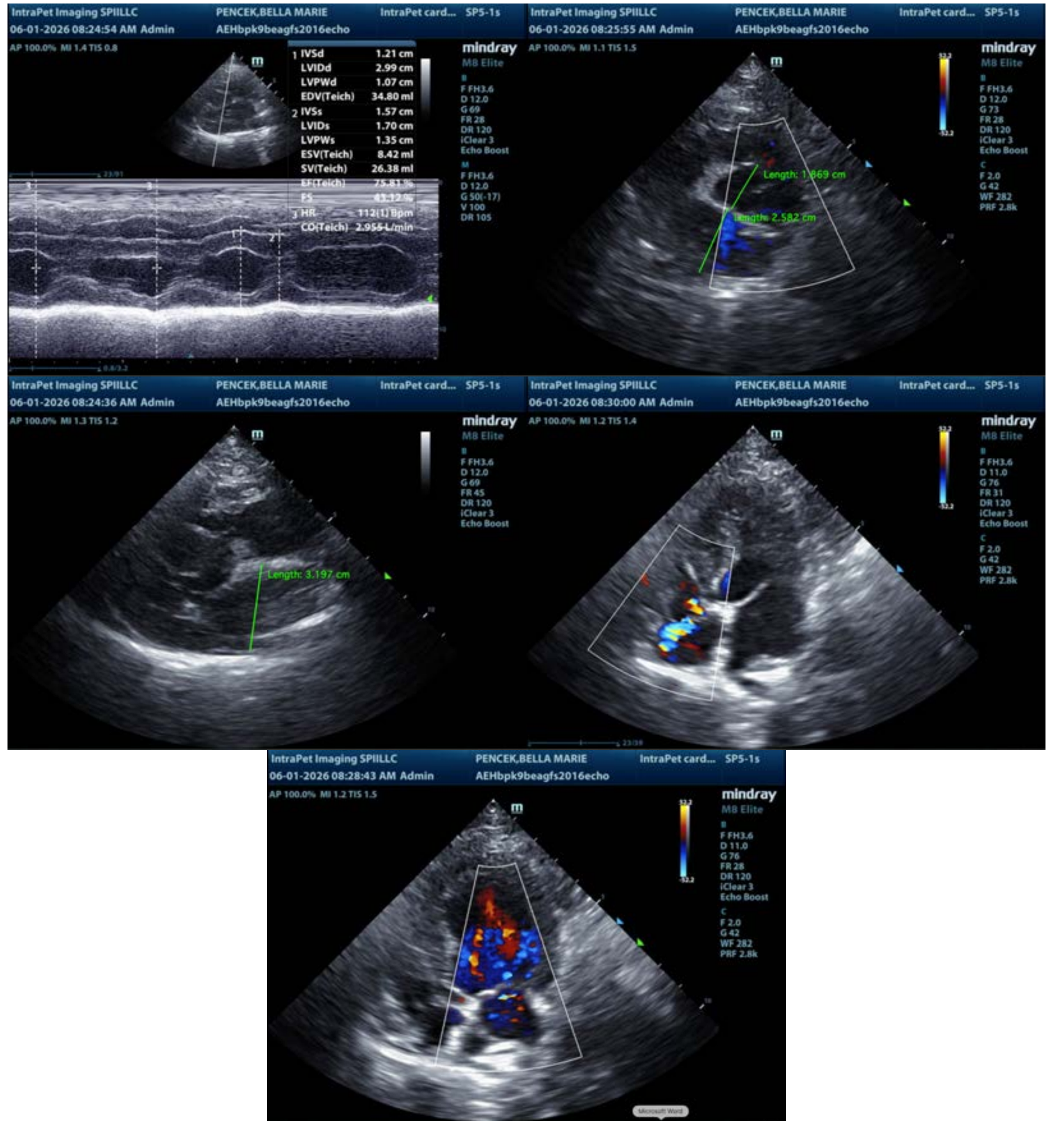
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No cardiac therapy is indicated at this time. Treatment for the PH/presumed respiratory disease is warranted, as clinical signs are present. The use of sildenafil (2 mg/kg TID) or tadalafil (2mg/kg SID) is appropriate. The merits of an airway scope/wash should be discussed with the owner, especially prior to any steroid use. A repeat echo is indicated in another 6 months, or sooner if progression is suspected, clinical signs develop/worsen, or cardiac therapy is being contemplated.

Anesthesia considerations:
While there is no CHF present, there is likely an increased anesthetic risk which must be considered prior to any anesthetic procedure. If anesthesia is necessary, then alpha-2 agonists, ketamine, and Telazol should be avoided. Fluid therapy during anesthesia does not necessarily need to be adjusted. A shorter anesthetic duration will reduce the risk of complications. Pre-oxygenation is mandatory. Premedication with an opioid (e.g., butorphanol, hydromorphone, oxymorphone) with or without a benzodiazepine is generally the safest protocol. An induction agent such as Propofol, alfaxalone, or diazepam/etomidate can be used to effect. Maintenance of anesthesia with isoflurane or sevoflurane is reasonable.

Diet:
No special considerations are necessary. Any high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina is reasonable.

Activity:
Moderate physical activity (meandering walks, exploring the backyard, playing with toys inside, getting excited when family gets home, etc.) is encouraged, but periods of strenuous aerobic activity (jogging, strenuous outdoor ball play, prolonged play at the dog park, etc.) should be avoided, especially during periods of high heat (> 80 F) and humidity. Dogs with heart disease tend to tolerate cool and cold temperatures much better than high temperatures. Avoid sudden increases in activity (e.g. 2 block walks during the week but 2 mile walks followed by 30 minutes at the dog park on the weekends) as this may be difficult for the cardiovascular system to deal with.



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.

Brad Harris, DVM, DACVECC, DACVIM (cardiology)
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