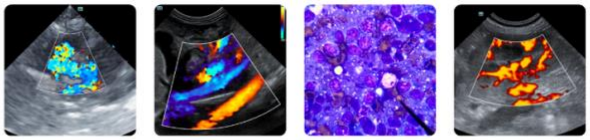




**PATIENT**

Winnie Benner

**SPECIES**

Canine

**BREED**

Yorkshire Terrier

**SEX**

Neutered Male

**AGE**

10 Years

**WEIGHT**

6.5 lbs

**INTERPRETED BY**

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

**IMAGING PERFORMED BY**

Julia Bakker DVM

**HOSPITAL NAME**

Orange Blossom Veterinary Imaging

**REFERRING VET**

Frieda Hottenstine DVM

**INVOICE**

16106

**DATE**

05/11/26

## PRESENTING CLINICAL SIGNS

History of elevated liver enzymes. Episodes of shortness of breath. Treated with Clavamox for possible pneumonia. Currently on Vetoryl, furosemide, methocarb and hydroxyzine (was on Tem P but developed GI bleed). Discontinued Denamarin when started Vetoryl. Previous x-rays: moderate hepatomegaly. Heart shadow enlarged. Spondylosis present L 5/6 and L1/2. Decreased disc space L 1/2. Discussed progressive liver enzyme elevations (ALT ALKP GGT). Shunt, mass, gallbladder, hepatitis etc Resting cortisol wnl but dog placed on Vetoryl Rec LDDS off Vetoryl 2 cavity US scheduled; Check liver, GB, adrenals etc and find cause of abnormal heart shadow

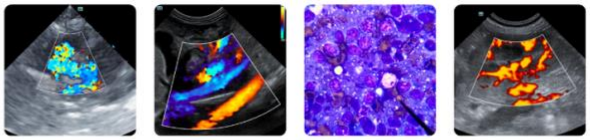
## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

| 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 | 2.95 | NM | 2.14 | 1.64 | 1.16 | 1.73 | 1.29 |
| 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 | 25 | 0.5 | 1.0 | 1.5 | NM | 3.2 | 39 |

### *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 thickened and redundant, with mild tricuspid regurgitation and evidence of 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 mild 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. No gross pulmonary pathology is identified on thoracic radiographs.

## ULTRASONOGRAPHIC FINDINGS





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- These findings identify degenerative mitral valve disease with minimal to no hemodynamic effects in the presence of mild pulmonary hypertension (PH). In the absence of more convincing left sided enlargement, the PH is 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.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given these findings, no cardiac therapy is recommended. There are no cardiac contraindications to anesthesia, fluid therapy, vasopressor therapy, or corticosteroids as indicated for further assessment and treatment. If not already performed, baseline blood pressure is recommended. A recheck echocardiogram is recommended in 6 months.

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:
A high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina that is highly palatable with adequate protein and calories for maintaining optimal body condition is reasonable.

Activity:
No special considerations are necessary.

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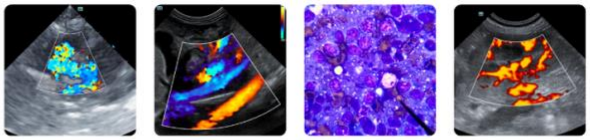

Clinical Sonography & Telecytology
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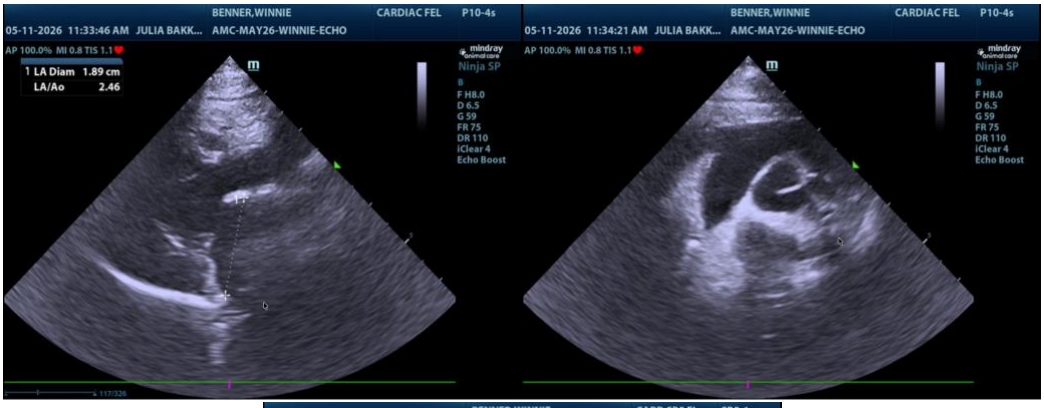


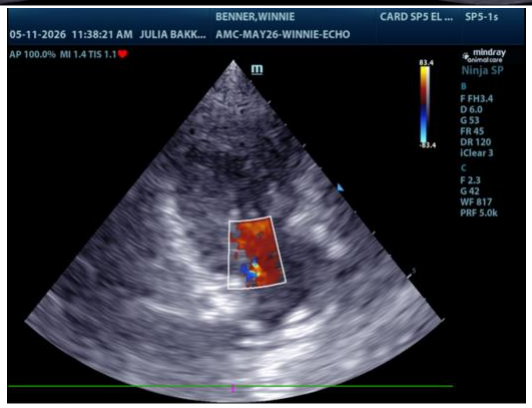


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**Bradley Harris**, DVM, DACVECC, DACVIM (cardiology)

info@SonoPath.com