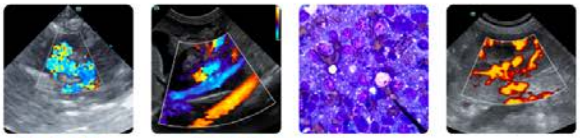



SonoPath www.thefocalzone.com info@thefocalzone.com 289.808.2608

**PATIENT**

Riley Makhoul

**SPECIES**

Canine

**BREED**

Collie x

**SEX**

Neutered Male

**AGE**

10 Years

**WEIGHT**

35.4 kg

**INTERPRETED BY**

Brad Harris, DVM, DACVECC, DACVIM (cardiology)

**IMAGING PERFORMED BY**

Amanda Stewart

**HOSPITAL NAME**

Headon Forest Animal Hospital

**REFERRING VET**

Dr. Pete

**INVOICE**

73500

**DATE**

3/9/26

## PRESENTING CLINICAL SIGNS

Presented today for a planned COHAT with intent to extract a devitalized incisor. The patient had received dexmedetomidine (4mcg/kg + 5mcg/kg later as a top up as he was very slow to sedate) and hydromorphone (0.1mg/kg) for sedation for his radiographs. An additional 0.5mg/kg dose of alfaxalone was administered slowly via IV catheter immediately prior to radiographs for additional sedation. Riley became bradycardic (HR in the 30s and 40s with a sinus arrhythmia) by the time radiographs were complete; his blood pressure and respiration remained adequate but atipamezole was administered to fully reverse the dexmedetomidine. Riley's HR returned to normal and he recovered from the remainder of his sedation without further incident.

Current Medications: Cerenia 60mgx2 last night at 6pm, 200mg Trazodone given this morning at 5:15am. Dexmedetomidine 0.65mL and Hydromorphone 10mg/mL 0.35mL IM this morning at 8:41am. Gave 2mL Alfaxan IV at 10:12am.

Abnormal PE/Chem/CBC/UA Results: Pre-anesthetic bloodwork (CBC and biochem) had been performed approximately 2 months prior and came back all within normal limits. Radiographic Findings Pre-operative thoracic radiographs showed increased vertebral heart score (>11) and possible right middle and caudodorsal lung changes (multifocal nodules vs. alveolar pattern).

## 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 | 35.4 | NM | 4.8 | 2.38 | 1.38 | 3.88 | 2.54 |
| **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 | 35 | 0.1 | 0.9 | 1.7 | 4.5 | NM | NM |

### *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 minimal prolapse. There is mild mitral regurgitation identified. The tricuspid valve leaflets are minimally thickened, with trivial tricuspid regurgitation and no evidence of 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, and

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appropriate diameter and distensibility. There is trivial 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 are consistent with degenerative/myxomatous mitral valve disease with minimal to mild hemodynamic effects consistent with ACVIM Stage B1 disease. It is unlikely that any current morbidity is of cardiac origin. The bradycardia is likely a physiologic response to the increase in afterload after the administration of dexmedetomidine.

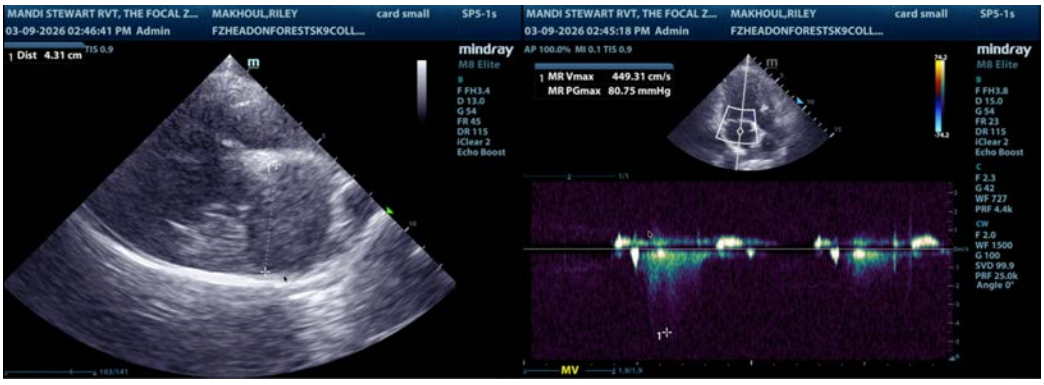
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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 thoracic radiographs and blood pressure are recommended. A recheck echocardiogram is recommended in 6 months.

Anesthesia considerations:
If anesthesia is necessary, alpha-2 agonists, ketamine, high dose acepromazine, and Telazol should be avoided. Fluid therapy during anesthesia should be considered at a conservative rate (e.g., 5 ml/kg/hour) if possible.

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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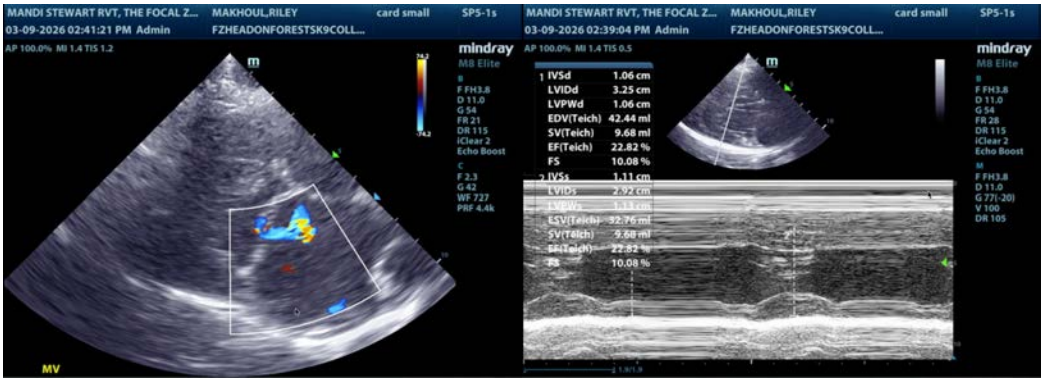


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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)

info@SonoPath.com