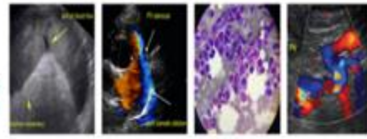
Mass Veterinary Services



SonoPath
Clinical Sonography & Telecytology
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1-800-838-4268 info@sonopath.com SonoPath.com

**PATIENT**
Mina Carlson

**SPECIES**
Canine

**BREED**
Chihuahua Mix

**SEX**
Female Spayed

**AGE**
5 years

**WEIGHT**
18.75lbs

**INTERPRETED BY**
Maggie Machen Lamy, DVM DACVIM (Cardiology)

**IMAGING PERFORMED BY**
Pamela Harrigan, RDCS

**HOSPITAL NAME**
Mass Veterinary Services

**REFERRING VET**
Dr. Masloski

**INVOICE**
25137

**DATE**
7/5/22

## PRESENTING CLINICAL SIGNS

History: Recheck echo. S/P balloon valvuloplasty for valvular pulmonary stenosis. Initial echocardiogram (4/27/21 Maggie Machen Lamy, DVM, DACVIM-Cardiology) revealed severe valvular PS with peak gradient of 100 mmHg. Balloon valvuloplasty performed at Tufts in May 2021. First post-op echocardiogram on 12/14/21 (Scott Forney, DVM, DACVIM-Cardiology): Pulmonary gradient improved: 50-70mmHg). Current presentation: S/P balloon valvuloplasty done at Tufts October 2021. She is presently doing well with no clinical issues. Good appetite and activity level. On exam: NSR, grade II-III/VI murmur with PMI left basilar area, PSS, lung fields clear. Currently no medications. *No sedation for study.
-Pertinent previous echo findings: Mild RVE; mild RVH; minimal RAE; mild dilation pulmonary artery branches; thickened pulmonary valve cusps with reduced excursion s/p valvuloplasty procedure. PV Vmax: 4.10m/s (67mmHg).

## ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
**Left ventricle:** The LV diameter is normal with adequate function. LV wall thicknesses are normal.
**Left atrium:** The left atrium is normal.
**Mitral valve:** The mitral valve appears normal with no MR.
**Aortic valve/Aorta:** The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
**Right ventricle:** The RV is mildly dilated with minimal hypertrophy.
**Right atrium:** Minimal RA dilation.
**Tricuspid valve:** The tricuspid valve appears normal with no tricuspid regurgitation.
**Pulmonic valve/Pulmonary artery:** Pulmonic outflow velocities are elevated at the level of the valve. The max velocity is consistent with a mild to moderate stenosis (PG 56mmHg). The pulmonic valve appears thickened and tethered. Moderate pulmonic insufficiency. Mild post-stenotic dilation of the MPA and branches.
**Pericardium/other:** No pericardial or pleural effusion noted. No obvious cardiac masses.
**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 150bpm.

**2-Dimensional Measurements**

| Measurement | Value |
|---|---|
| Ao diam (cm) | 1.6 |
| LA diam (cm) | 1.8 |
| LA:Ao (Swe) | 1.1 |
| IVS thickness (cm) | 0.6 |
| LVID diastole (cm) | 2.6 |
| PW thickness (cm) | 0.6 |
| LVID systole (cm) | 0.9 |
| FS (%) | 65 |

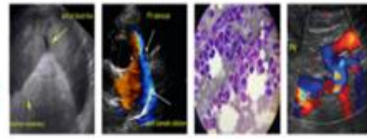
**Doppler Measurements**

| Measurement | Value |
|---|---|
| PV Vmax (m/s) | 3.7 |
| AoV Vmax (m/s) | 1.5 |
| MR Vmax (m/s) | NA |
| TR Vmax (m/s) | NA |
| TR PG (mmHg) | NA |

## INTERPRETATION OF THE FINDINGS

Compared to the initial study, there is evidence of improvement following surgery. The post-op pressure gradient was 67mmHg, making this a further mild improvement. The right heart has improved compared to the prior study as well, with only mild enlargement persistenting. No additional issues are identified.

Given what is seen here, no medications are clearly warranted. Prognosis remains guarded; however, a lack of restenosis thus far certainly a good sign. Lifelong monitoring remains advised.



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Monitor for development of associated clinical signs (collapse, abdominal distention, cough, labored breathing). Mild exercise restriction is advised. Omega fatty acid supplementation may have some long-term benefit, given these cases are predisposed to development of arrhythmias going forward.

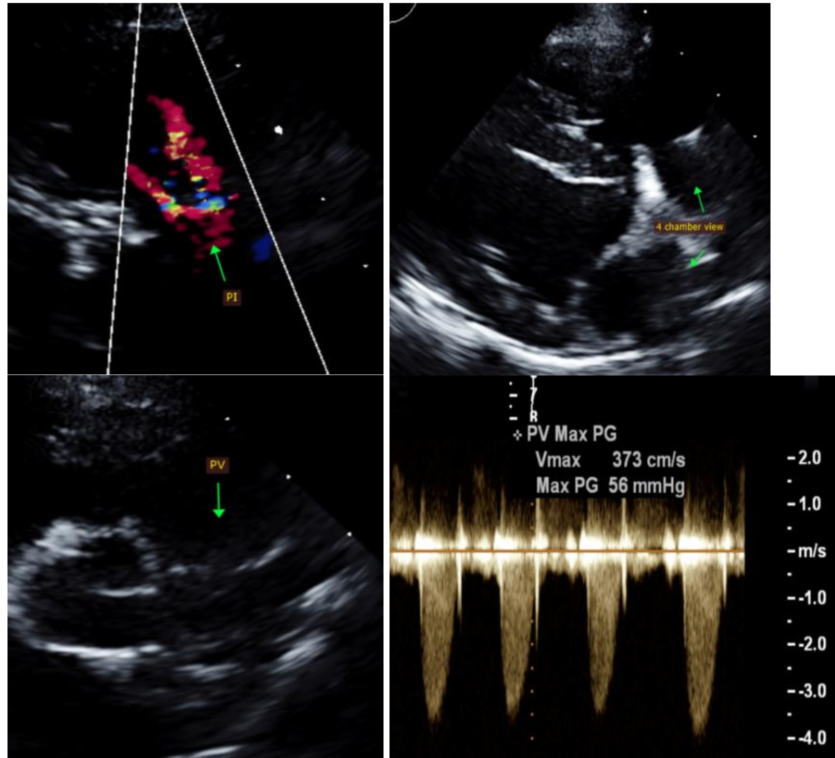
## RECOMMENDATIONS

- No medications are identified.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Anesthetic risk is mild to moderate at this time. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless absolutely necessary. Avoid vasodilators such as acepromazine. Mild IV fluid restriction is advised. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 if possible.
- Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary.
- Mild activity restriction is advised.

## PLAN

- A recheck echocardiogram is recommended annually, sooner if clinical signs arise.

## IMAGES



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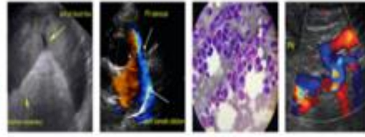

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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

**Maggie Machen Lamy, DVM**
**Diplomate of the American College of Veterinary Internal Medicine (Cardiology)**
info@sonopath.com

**Echocardiogram performed by:** Pamela Harrigan, RDCS
Pet Animal Ultrasound Service (4paus.com)