

**PATIENT PRESENTING CLINICAL SIGNS**

Oreo Akovenko

**SPECIES**

Canine

**BREED**

Pomeranian

History: Chest rads done 7/29/2021 report showed: The cardiac silhouette is enlarged (VHS=12.0; normal = 9.7 +/- 0.5). The shape of the heart indicates mild enlargement of the left ventricle and moderate enlargement of the left atrium. The pulmonary vessels are of normal diameter. There is a mild diffuse interstitial lung pattern that is consistent with normal aging change. The appearance of the lung tissue is adversely affected by mild motion artifact in the lateral projections. A curvilinear opacity overlying the cardiac silhouette in the left lateral projection is a skin fold. No abnormalities are identified within the mediastinal space or the pleural space. The liver is enlarged. A focal convexity at the ventral margin of the liver in the right lateral projection likely represents incidental visualization of the gallbladder. There is an incidental finding of bilateral shoulder osteoarthritis.  
Abnormal PE/Chem/CBC/UA Results: ALB: 4.7 Glob: 2.3

**SEX**

Spayed Female

**AGE**

12 years

**WEIGHT**

10.8 lbs

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated slight **left atrial** enlargement. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum** and **pericardial** regions were free of masses in the visible window.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Evoniuk

**HOSPITAL NAME**

State Ave Vet Clinic

**REFERRING VET**

Dr. Evoniuk

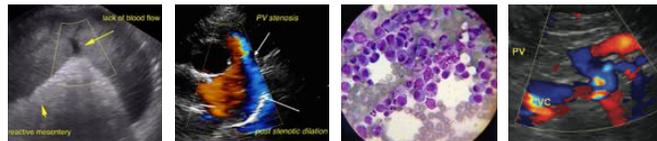
**INVOICE**

91048

**DATE**

8/9/21

| CANINE<br>CARDIAC<br>PARAMETERS | MR<br>VMAX<br>(m/s) | TR<br>VMAX<br>(m/s) | LA/AO<br>(Boon method) | LA/AO<br>(Heart Base;<br>Swe) | FS<br>(%)                                | EF<br>(%)  | EPSS<br>(cm)                                       |
|---------------------------------|---------------------|---------------------|------------------------|-------------------------------|--|--|--|
| NORMAL<br>PARAMETER             | 4.5-5.5             | <2.7                | 1.3                    | <1.6                          | 28-40                                    | 40-100   | <0.6   |
| PATIENT                         | NM                  | NM                  | 1.3                    | 2.0                           | 55                                       | 90   | 0.1  |
| CANINE<br>CARDIAC<br>PARAMETERS | HR<br>(BPM)         | AV<br>VMAX<br>(m/s) | PV<br>MAX<br>(m/s)     | BODY<br>WEIGHT<br>(kg)        | LA<br>2D short axis<br>Base view<br>(cm) | LVIDd<br>Avg; 2D and m-<br>mode short axis<br>(cm) | LVIDs<br>Avg; 2D and m-<br>mode short axis<br>(cm) |
| NORMAL<br>PARAMETER             | 50-100              | 0.7-1.7             | 0.7-1.6                |                               |  |  |  |
| PATIENT                         |                     | NM                  | 1.0                    | 10.8 lbs                      | 3.1                                      | 2.5  |  |



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**ULTRASONOGRAPHIC FINDINGS**

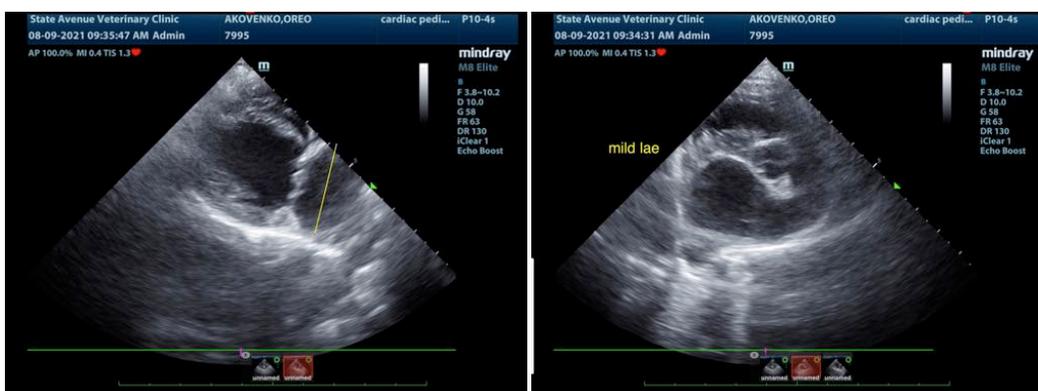
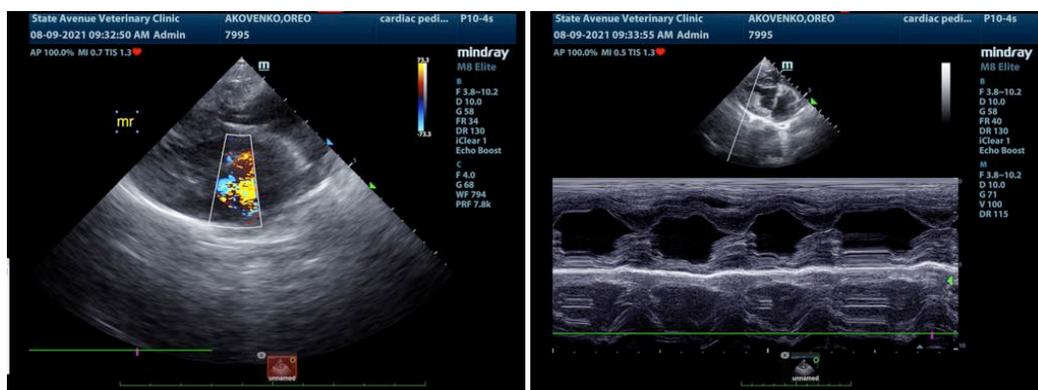
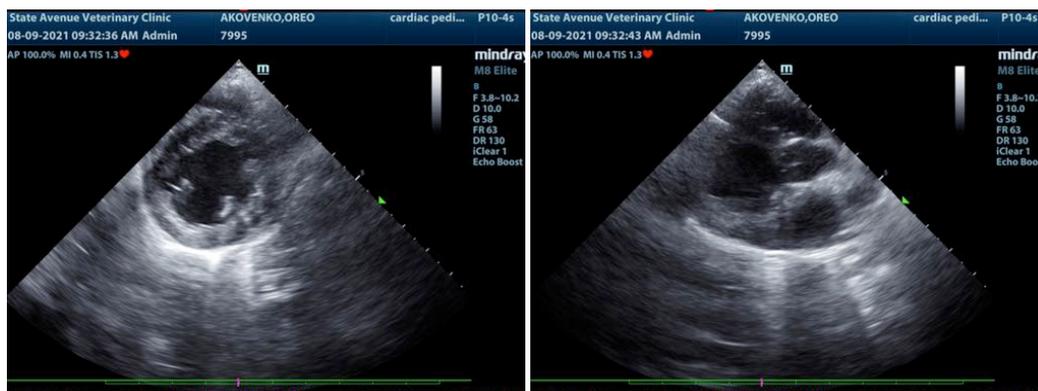
Stage B1 valvular disease.

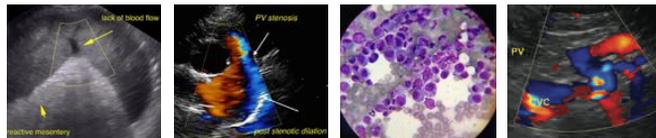
Mitral insufficiency.

Mild left atrial enlargement.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

I recommend blood pressure measurements. If the systolic pressure is greater than 160, then ace inhibitor therapy is warranted. Pimobendan is warranted at 0.3 mg/kg b.i.d. with a recheck echocardiogram in 1-3 months.





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Oreo Akovenko

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.

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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.

**BREED**

Pomeranian

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

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