



**PATIENT**

Stella Vukovic

**SPECIES**

Canine

**BREED**

King Charles Cavalier  
Spaniel

**SEX**

Intact Female

**AGE**

2 Years 1 Month

**WEIGHT**

7.8 kg

**INTERPRETED BY**

Sara Brethel DVM,  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Dr. Mariusz  
Chmielinski, DVM

**HOSPITAL NAME**

Apex VS

**REFERRING VET**

Apex 24/7 ER Doctor

**INVOICE**

35941

**DATE**

12/16/25

**PRESENTING CLINICAL SIGNS**

History: 3/5 murmur until around 4 months of age, Born with Pulmonic stenosis - had echo done in may 2024 - now the murmur 5/6, Diet RC Adult lamb and rice, For now all normal compensating well, RR at 22 - 25 max.

Abnormal PE/Chem/CBC/UA Results: Vital Signs: Temperature [Celsius]:38.0, Heart Rate/min (HR):122, HR: Pulse Ratio: 1:1, Respiratory Rate/ min: 26, Respiratory Effort: 0, Mucus Membranes/ CRT: pink, moist/ CRT < 2 sec ,Mentation: BAR ,Hydration: Adequate , BCS (scale 1 to 5): 3.5/5, BP 129/114 (116). Grade 5 -6 /6 heart murmur .

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	--	--	1.23	1.32	53.68	53.68	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LAD LA MAX 4 Chamber	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	--	1.03	~5.0	7.8	--	1.9	0.88

Pulmonic valve annulus roughly: 1.2 cm

**Cardiac Presentation**

The mitral valve leaflets are normal and there is no mitral regurgitation. There is no prolapse of the mitral valve leaflets. The left atrial size is normal. There is evidence of left ventricular underloading, secondary to increased right atrial or right ventricular pressures. There is moderate right atrial enlargement without evidence of tricuspid regurgitation. There is no prolapse of the tricuspid valve leaflets and no evidence of pulmonary hypertension on today's evaluation. There is evidence of right ventricular concentric hypertrophy primarily of the right ventricular free wall. The aortic valve is normal and has normal corresponding outflow velocities without evidence of insufficiency. The pulmonic valve is dysplastic, and the patient continues to have severe pulmonic stenosis. There is mild to moderate pulmonic insufficiency. The pulmonary artery and associated branches appear dilated, and there is a post-stenotic dilation. The aorta appears normal. There is no evidence of pleural effusion, pericardial effusion, or intracardiac masses.

**ULTRASONOGRAPHIC FINDINGS**



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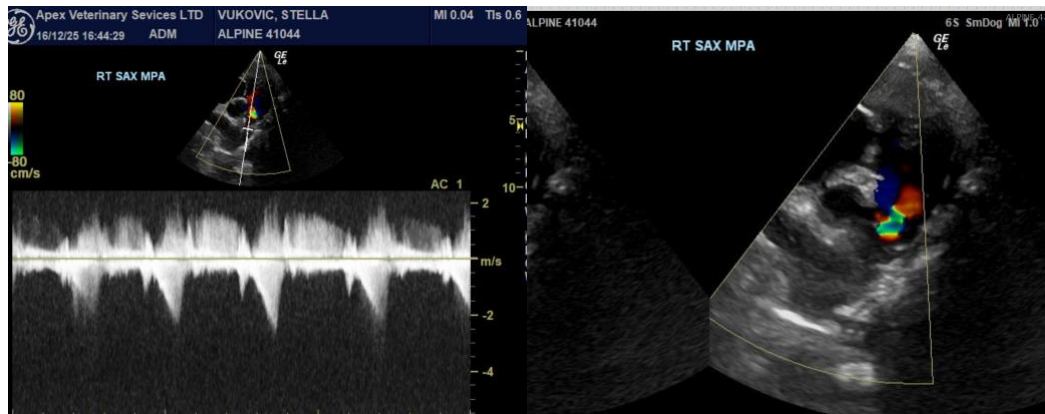
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- Severe valvular pulmonic stenosis
- Right atrial enlargement
- Right ventricular concentric hypertrophy
- Pulmonic insufficiency

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient has pulmonic stenosis in the severe category, similar to the previous echocardiogram performed. Gold standard therapy is pursuing a balloon valvuloplasty. Recommend the clients consider referral for this procedure. The cause of the progressive heart murmur is not identified. In the absence of clinical signs and in the absence of significant decreases in the pulmonic outflow velocities, there are no other concerns with the change in the heart murmur. It is not noted if the patient is receiving atenolol. If the patient is not on atenolol, I recommend initiating this therapy. Typically, I start at a slow uptitration, going from 0.5 mg/kg once per day, to 0.5 mg/kg twice per day, for four days, increasing by 0.25 mg/kg increments, up to 1.0 mg/kg twice daily, lifelong, as long as the patient is tolerating the beta blockade. If not pursuing referral, recommend a check a recheck echo in 9-12 months, sooner if cardiovascular clinical signs develop. The patient is at risk of entering into right sided heart failure, and unfortunately this patient does have a risk of passing away suddenly.



**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.

Sara Brethel DVM, DACVIM (Cardiology)

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