

Restrictive Foramen Ovale Mimicking Left-Sided Heart Disease: Prenatal and Postnatal Evolution.

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Introduction

Restrictive foramen ovale (FO) is an uncommon fetal cardiac finding that may mimic left-sided structural heart disease because of altered fetal hemodynamics. We report a fetus with prenatal findings suggestive of evolving left-sided obstruction that resolved during postnatal follow-up.

Case report

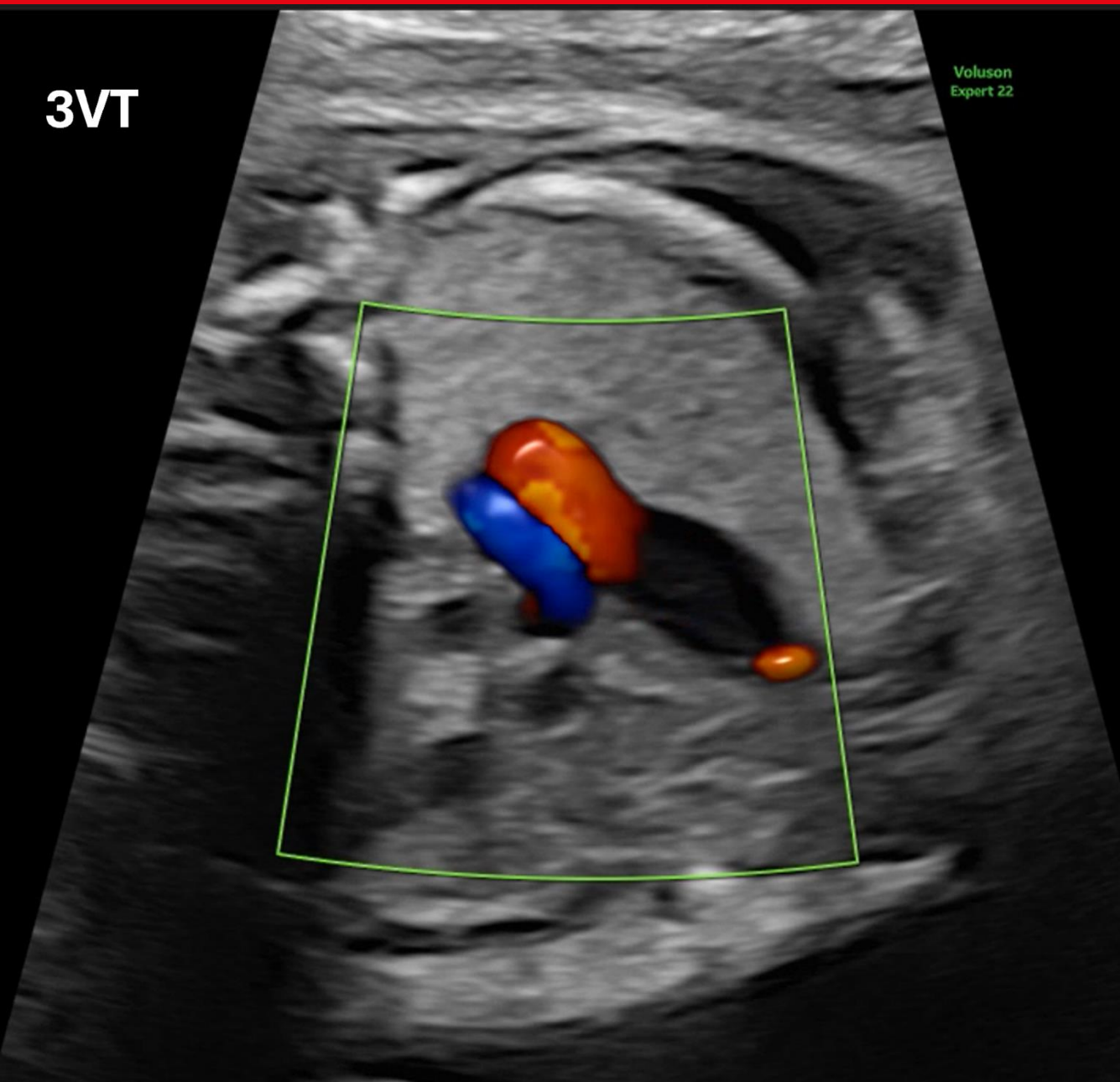
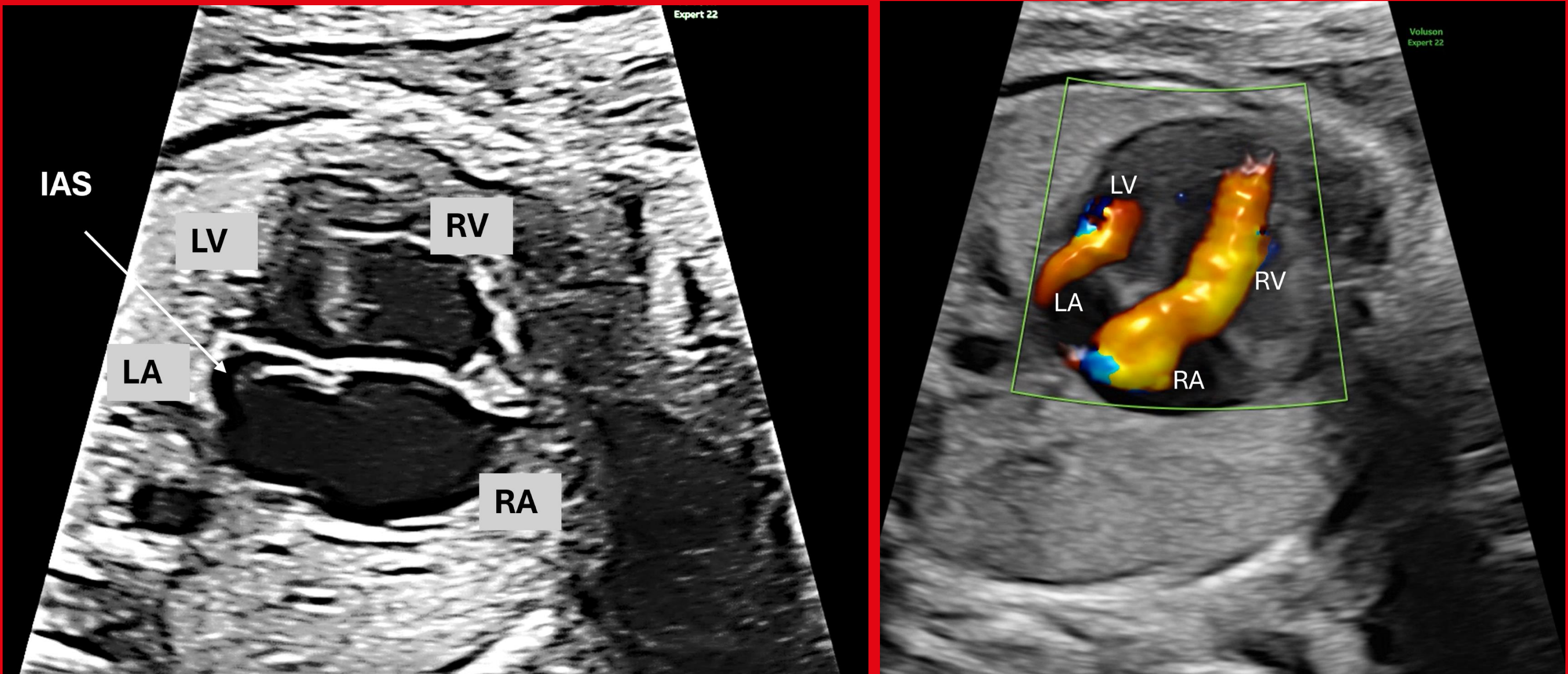
A 42-year-old pregnant woman was referred for fetal echocardiography at 28+4 weeks after suboptimal cardiac views. The fetus presented right ventricular dominance, leftward bowing of the interatrial septum consistent with restrictive foramen ovale, dilated pulmonary veins with reversed A-wave, and a narrow aortic isthmus (z-score -2.98), raising concern for evolving left-sided obstruction. Serial fetal examinations remained stable until delivery at 38 weeks.

Postnatal echocardiography demonstrated a small left ventricle, hypoplastic aortic annulus with preserved antegrade flow, and no aortic arch obstruction.

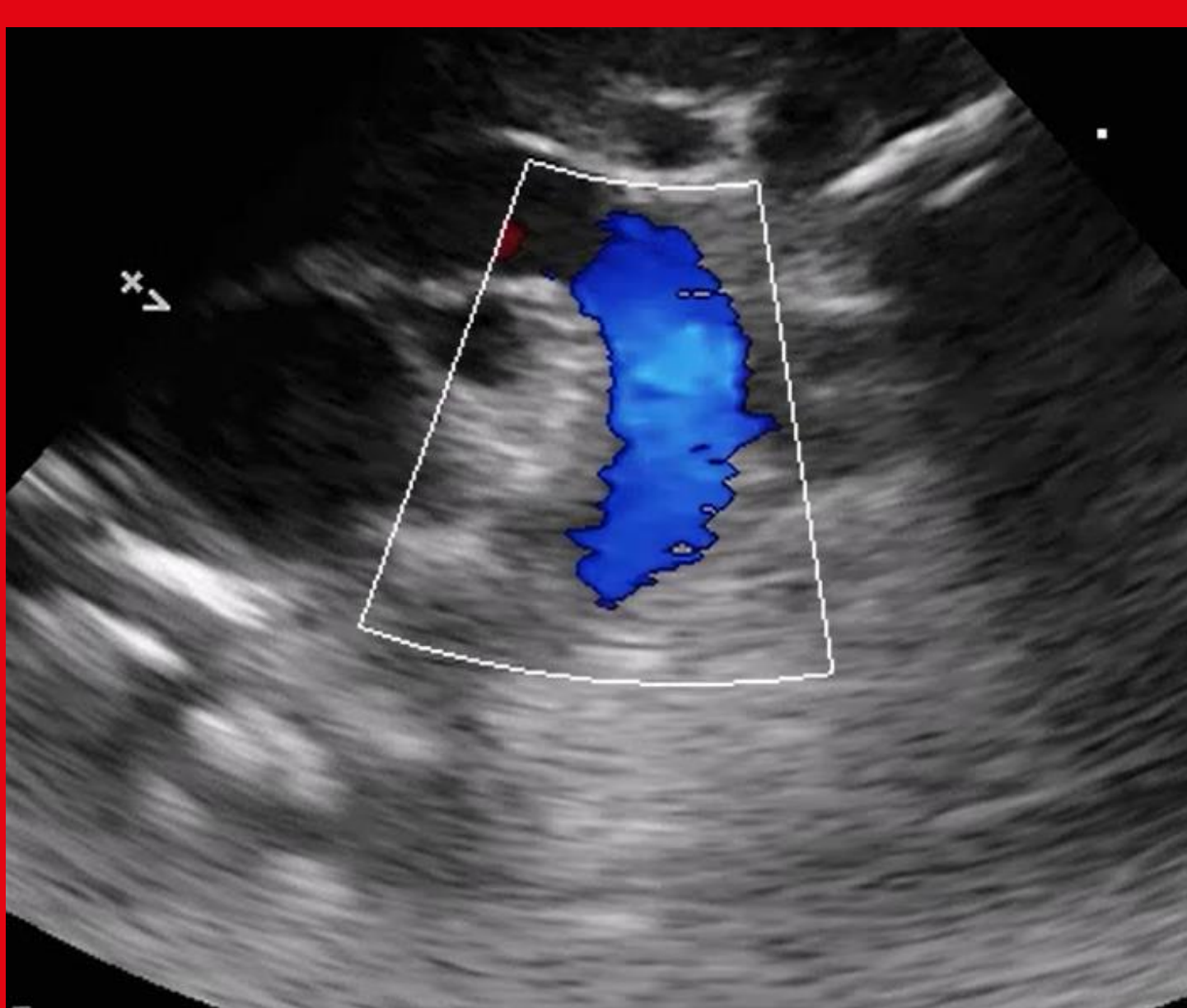
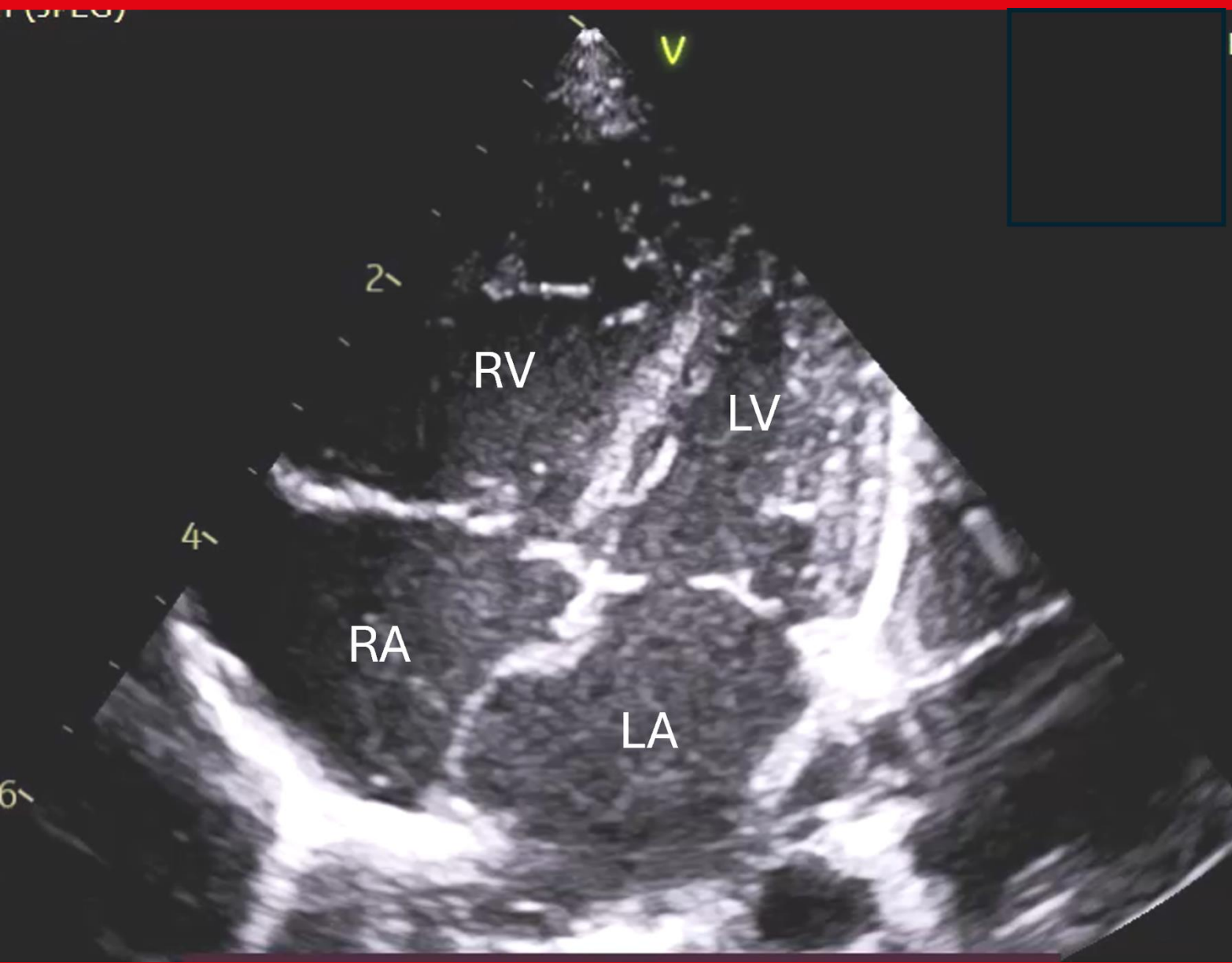
At day 7, persistent restrictive foramen ovale physiology was associated with elevated left atrial pressure and echocardiographic signs of pulmonary hypertension. By day 22, follow-up showed left ventricular and aortic annulus growth, improved diastolic function, and complete resolution of pulmonary hypertension.

Conclusion

Restrictive fetal FO may closely resemble evolving left-sided obstructive heart disease by producing secondary hemodynamic changes rather than intrinsic structural abnormalities. Serial prenatal and postnatal echocardiography demonstrated progressive normalization of cardiac morphology and function, emphasizing the importance of recognizing this physiology to avoid premature diagnosis of left-heart hypoplasia.



Fetal Echocardiogram showing signs of Left Ventricular Hypoplasia



Neonatal Echocardiogram Four Chamber View and Normal Aortic Arch