

(EP08.58). Pregnancy after heart transplantation for hypertrophic cardiomyopathy with neonatal septal hypertrophy suggesting familial transmission

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Introduction

Hypertrophic cardiomyopathy (HCM) is an inherited disease with persistent transmission risk. Pregnancy after orthotopic heart transplantation (OHT) is rare and requires specialized maternal–fetal surveillance. Cases combining maternal OHT for HCM with fetal signs of genetic transmission are exceptional.

Case description

A 34-year-old primigravida with childhood-onset HCM underwent pacemaker implantation (13 y), ICD upgrade (24 y), CRT (28 y), and OHT (29 y). She remained stable on tacrolimus monotherapy with no rejection (PRA I 1%, II 0%). Family history included a brother who died from HCM.

At 34 weeks she developed exertional dyspnea and orthopnea. Maternal echocardiography showed RV dilation and reduced IVC collapse, suggesting increased preload.

Fetal echocardiography showed mild septal hypertrophy (7.7 mm; Z +3.2), aneurysmal atrial septum with 4-mm PFO, preserved systolic/diastolic function, and HUTA score 10.

Results

Elective cesarean at 37 weeks. Male newborn, 3030 g, Apgar 9/9. Neonatal echocardiography: moderate-to-severe non-obstructive septal hypertrophy, preserved systolic function, mild diastolic dysfunction, small closing ductus. Familial HCM strongly suspected; no sarcomeric testing available.

At 3 weeks postpartum, the mother remained asymptomatic with preserved graft function (EF 56%), normal diastolic parameters, normal RV, no pulmonary hypertension, and no pericardial effusion. Tacrolimus levels therapeutic. Newborn clinically stable under cardiology follow-up.

Skip tables

Maternal	Stable graft; no rejection; RV dilation at 34 w
Fetal	Septal hypertrophy (7.7 mm, Z +3.2); PFO 4 mm
Neonatal	Moderate–severe septal hypertrophy

Key Message

Heart transplantation replaces the organ, not the genetics. Fetal echocardiography remains the earliest window into inherited cardiomyopathy.

Conclusion

Pregnancy after heart transplantation for hypertrophic cardiomyopathy can achieve favorable outcomes with coordinated multidisciplinary care. The fetal and neonatal septal hypertrophy in this case confirms that genetic risk persists despite maternal graft replacement, underscoring the importance of detailed fetal echocardiography and structured cardiogenetic follow-up.

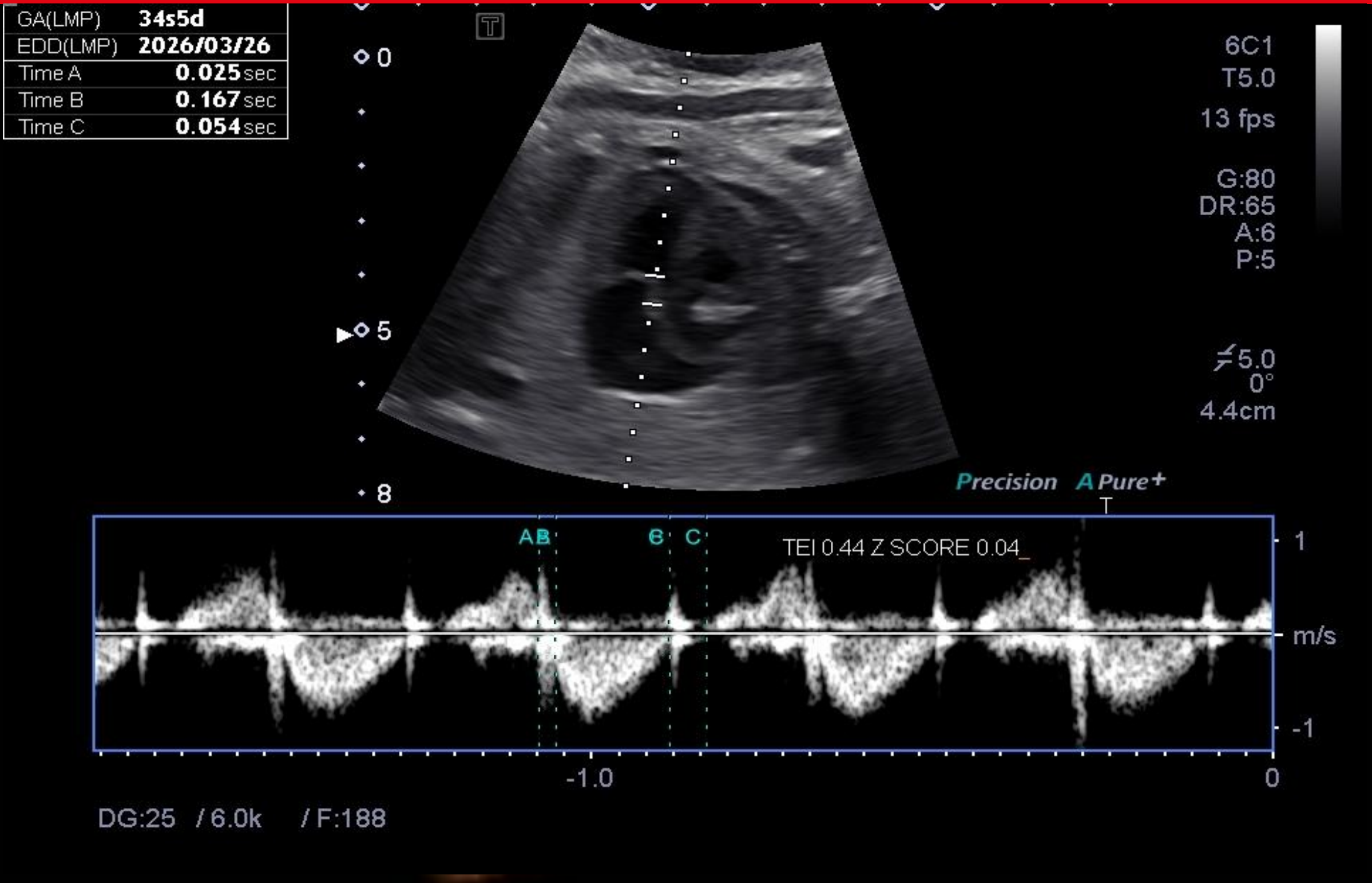


Figure 1. Maternal TEI index during late pregnancy

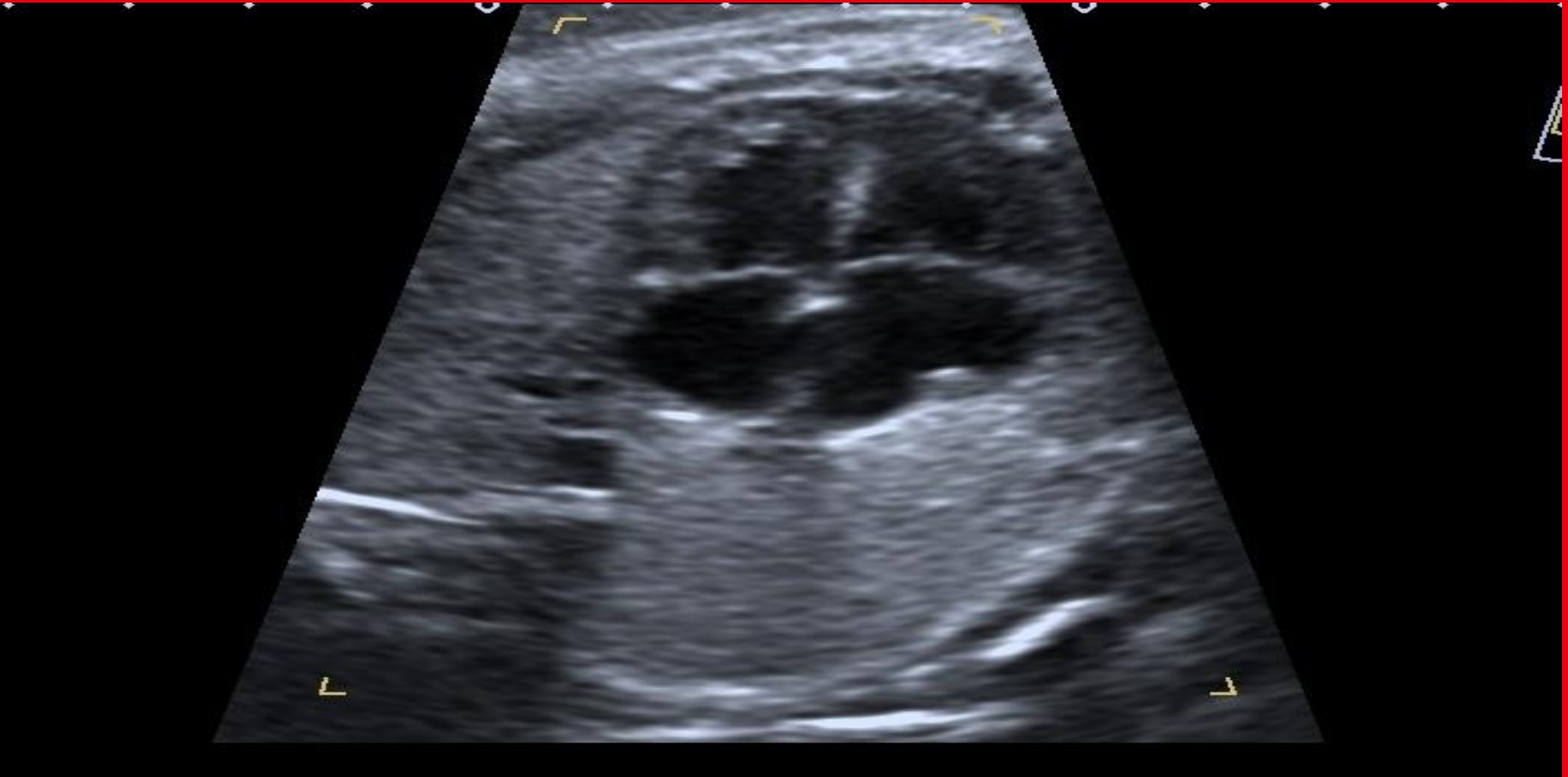


Figure 2. Four-chamber fetal view showing septal hypertrophy

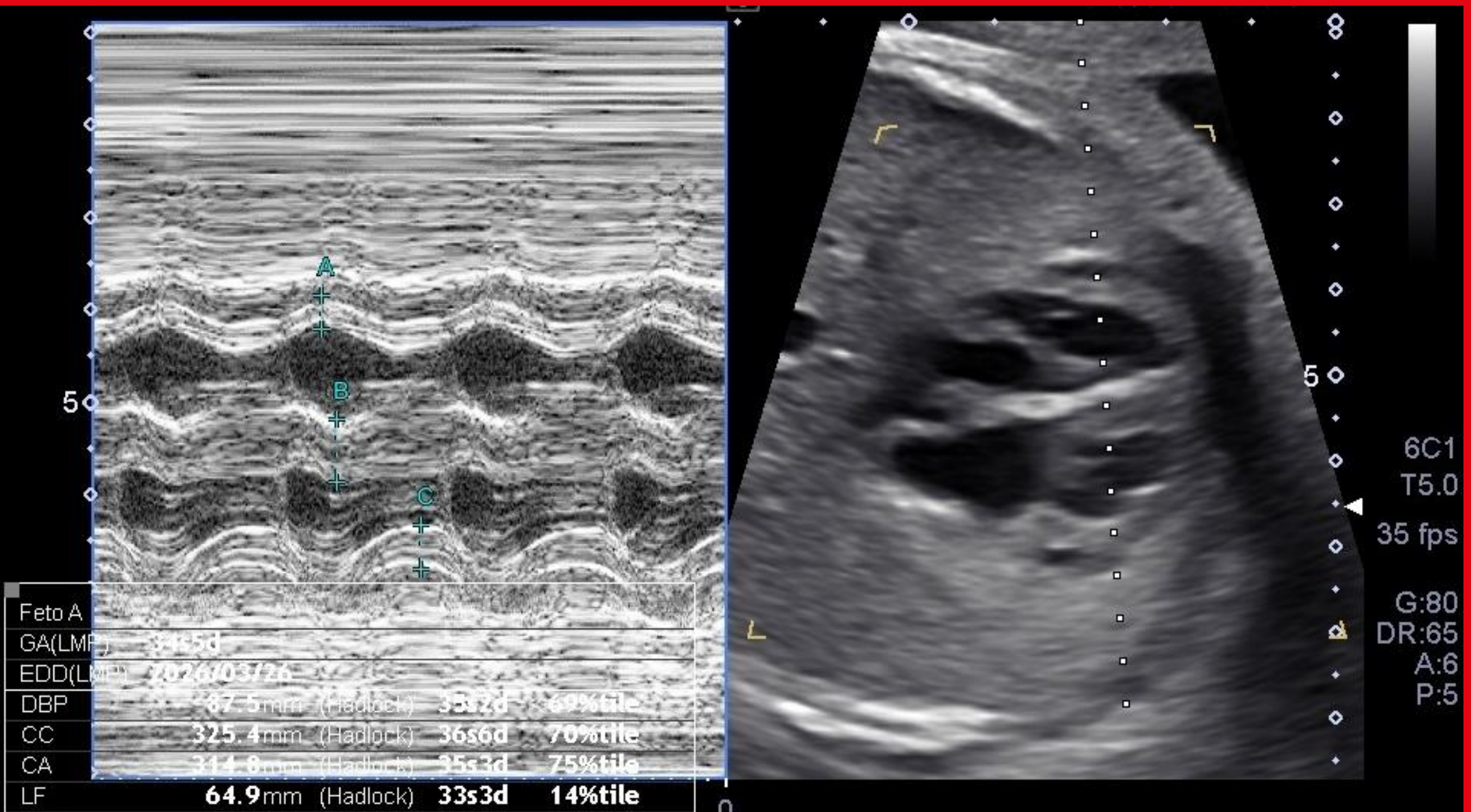


Figure 3. M-mode confirming increased septal thickness