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### **Congenital mitral valve regurgitation, the dilemma of repair vs replacement.**

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Congenital mitral valve regurgitation, the dilemma of repair vs replacement.

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**IRB Number:**

**Describe role of Submitting/Presenting Trainee in this project (limit 150 words):**

**Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words**

**Background:** Congenital mitral regurgitation is a rare condition and can be challenging to manage when presenting in the neonatal period

**Objectives/Goal:** Two week old male presented with poor weight gain, murmur and cardiomegaly on chest X-ray. Echocardiogram showed moderate to severe mitral regurgitation (MR) and suprasystemic pulmonary hypertension (PHN) (fig 1 a, b). The mitral valve (MV) leaflets were thickened and tethered with failure of central coaptation. PHN was classified as WHO I and II (due to persistent PHN of newborn and MR respectively). Inhaled nitric oxide, Enalapril and Furosemide were initiated. Cardiac catheterization revealed PVRi of 8.9 WU x m<sup>2</sup> and CT was non-specific for lung parenchymal disease. Sildenafil and Flolan were added to reverse PHN prior to proceeding with MV repair. At 4 weeks of age he underwent mitral valvuloplasty which was complicated by severe MR and left heart failure (fig 1 c-d). Successful MV replacement with 17 mm St Jude mechanical valve was performed at 11 weeks (fig 1 e). PHN medications were weaned and patient is now ready for discharge.

**Methods/Design:** Patient presented with severe left heart failure and PHN secondary to severe congenital MR. MV intervention was indicated due to failed medical management. While MV replacement, can be a challenge, it was ultimately necessary given the severe post repair residual regurgitation.

**Results:**

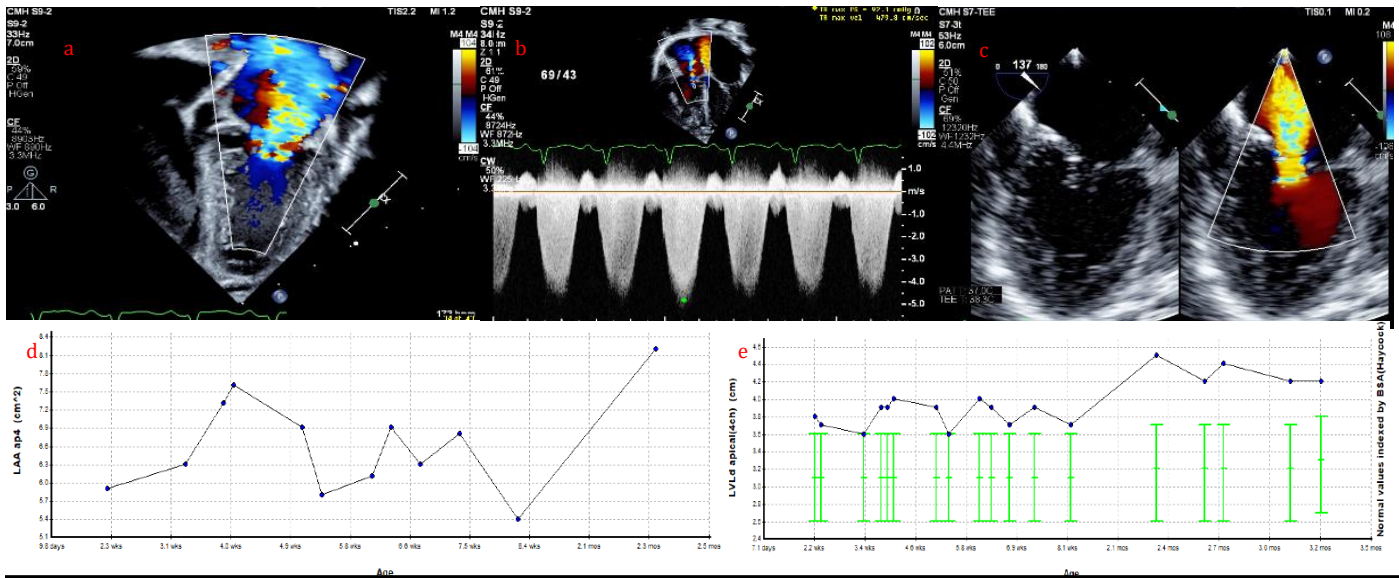


Figure 1. Echocardiographic imaging and graphic trends

a. Apical image of severe congenital mitral regurgitation on presentation. b. CW doppler of tricuspid regurgitation jet estimating suprasystemic right ventricular pressures on presentation. c. Post- operative TEE after MV repair showing persistent severe MR. d. Graphic trends of left atrial volume prior to MV replacement. e. Graphic trends of left ventricular end diastolic volume; the last 4 data points were obtained after MV replacement.

**Conclusions:** This case highlights the complexity of decision making for congenital MR, and the role of MV replacement in the case of failed repair.