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

Bianca Cherestal
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Submiting/Presenting Author (must be a trainee): Bianca Cherestal, MD  
Primary Email Address: bpcherestal@cmh.edu

Medical Student
Resident/Psychology Intern (≤ 1 month of dedicated research time)
Resident/Ph.D/post graduate (> 1 month of dedicated research time)
X Fellow

Primary Mentor (one name only): Doaa Aly, MD
Other authors/contributors involved in project:

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 m2 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:
**Conclusions:** This case highlights the complexity of decision making for congenital MR, and the role of MV replacement in the case of failed repair.