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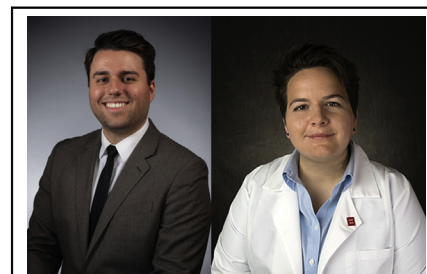
## Commentary: A shoestring catch...

Michael D'Angelo, MD, Les James, MD, MPH, and Eugene A. Grossi, MD

In this issue of *JTCVS Techniques*, Budra and colleagues<sup>1</sup> present 3 cases of off-pump transventricular mitral valve repair in patients with acute mitral regurgitation (MR) secondary to postinfarction papillary muscle rupture. In all cases, artificial Neochords were implanted, with MR severity reduced from severe to mild. The initial operations served as a bridge for definitive elective mitral valve repair months after initial presentation.

Although we may applaud the authors for their valiant efforts, the necessity of such heroics is a separate question. The authors express concern regarding the use of cardiopulmonary bypass due to “LV damage caused by systemic inflammatory response, free radical injury, and myocardial oxidative stress.” These are valid concerns for any pump case. The authors concede that left ventricular function was preserved in this series of patients. At the very least, it may have been prudent to consider cardiopulmonary bypass for these cases. In addition, these patients had stenting of their “culprit” lesion with the associated mandatory antiplatelet therapy; however, it is unclear what benefit this provided, since transmural infarct occurred several days before.

All 3 patients had intraoperative reduction to mild MR with these “shoestrings.” However, all had moderate reoccurrence at discharge and were severe enough to require



Michael D'Angelo, MD (left), and Les James, MD, MPH (right)

### CENTRAL MESSAGE

Artificial neochords can be used for temporary MVr after papillary muscle rupture, although this may end up kicking the can down the road, postponing the inevitable need for a more durable solution.

reoperation within 6 months. Perhaps a more standard approach with an initial durable replacement would have been sufficient to spare these patients the need for immediate reoperation. In this limited report, the authors demonstrated success with a risky operative approach. When it works, it is a tale worthy of the hall of fame—however, should the ball bounce right beneath your feet, what would have been a single now turns into a costly triple. Sometimes the safe play is the right play.

### Reference

1. Budra M, Janušauskas V, Zorinas A, Zakarkaitė D, Aidietis A, Samalavičius R, et al. Rescue transventricular off-pump mitral valve repair with artificial neochords for acute mitral regurgitation due to postinfarction papillary muscle rupture. *J Thorac Cardiovasc Surg Tech.* 2021;10:231-42.

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