Commentary: Play to your strengths by sticking to what you're best at.

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PII: S0022-5223(24)00657-3
DOI: https://doi.org/10.1016/j.jtcvs.2024.07.043
Reference: YMTC 19694

To appear in: The Journal of Thoracic and Cardiovascular Surgery

Received Date: 23 July 2024
Accepted Date: 23 July 2024

Please cite this article as: Umana JP, Gillinov M, Commentary: Play to your strengths by sticking to what you're best at., The Journal of Thoracic and Cardiovascular Surgery (2024), doi: https://doi.org/10.1016/j.jtcvs.2024.07.043.

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Commentary: Play to your strengths by sticking to what you’re best at.

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Word Count: Five hundred

Disclosures: Dr. Umana is a consultant to Edwards Lifesciences and receives royalties from Abbott.
Dr. Gillinov is a consultant to Edwards Lifesciences, Medtronic, Abbott, Artivion, Corcym, ClearFlow, Johnson and Johnson, and Baxter.

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Central Message: Surgeons should stick to the techniques with which they have expertise to achieve an optimal result in mitral valve repair.

Central Picture Legend: Juan P. Umana, MD and Marc Gillinov, MD

While we all agree that mitral valve repair provides the best solution for the treatment of degenerative mitral regurgitation, the introduction of neochordae implantation (1) has sparked a three-decades’ long debate around what Patrick Perrier coined as the “resect vs. respect” paradigm (2). Multiple authors have attempted to answer the question by comparing the two “competing” techniques, with equal numbers claiming superiority of one over the other (3,4), and meta-analyses showing variable differences (5,6). The lack of conclusive evidence in either direction is an indication that the answer is somewhere in the middle.
In this article, Kwon et al. revisit the question with a large series of patients with isolated single-segment posterior leaflet prolapse operated on between 2000 and 2021 with excellent results and follow-up greater than 95% at a median of 97 months, one the longest longitudinal follow-ups on a cohort of patients comparing both techniques. Discrepancies between groups were addressed using inverse-probability-of-treatment-weighing, using propensity scores to adjust for selection biases. The results showed no difference in mortality or complications, but a higher recurrence of significant mitral regurgitation in the neochord group. Transvalvular pressure gradients were not significantly different overall, but the subgroup of patients treated with neochords and partial bands exhibited higher transvalvular gradients than those receiving complete rings. Of note, rings and bands in the neochordae group were one size smaller than those in the resection group. This represents a potential learning curve bias of the study, since only 25% of patients were treated with neochordae implantation, predominantly during the latter part of the study.

In contrast, Pfannmueller et al. reported the Leipzig experience using loop neochords vs. resection, with neochords having a significantly lower incidence of recurrent mitral regurgitation (3). In their series, only 25% of the patients underwent resection, proving that their expertise is in neochordal reconstruction.

Results are excellent with both techniques, with differences in outcomes likely related to learning curves and expertise, calling for us to play to our strengths by sticking to what we’re good at; be it resection or neochordae implantation (7).

At Cleveland Clinic, we have strived to standardize and simplify the approach to mitral valve repair by applying five techniques to achieve greater than 96% repair rates:

1.) Triangular resection in segmental posterior prolapse with low risk of SAM.

2.) Sliding repair if there’s high risk of SAM, excess leaflet tissue, small hyperdynamic ventricle,
or narrow left ventricular outflow tract.

3.) Artificial chords for any posterior prolapse with low risk of SAM. Particularly useful for multisegment prolapse in which resection would leave little residual leaflet.

4.) Commissuroplasty in commissural prolapse

5.) Annuloplasty for all repairs.

For most patients with posterior leaflet prolapse, we favor resection as the primary technique.

We advocate the use neochordae to supplement resection, or as the primary approach when there is diffuse, multisegment prolapse (7,8).

The key points are these:

1. These five techniques can be used to repair nearly all degenerative valves.

2. Surgeons should stick to the techniques with which they have expertise.

References


