Posterior leaflet mitral valve prolapse: One repair does not fit all

Syed A. Sadeque, MBBS, FRCS, and Clifford W. Barlow, FRCS, DPhil

From the Division of Cardiothoracic Surgery, Southampton General Hospital, Southampton, United Kingdom.

Disclosures: Authors have nothing to disclose with regard to commercial support.

Received for publication July 10, 2018; accepted for publication July 10, 2018; available ahead of print Aug 21, 2018.

Address for reprints: Clifford W. Barlow, FRCS, DPhil, University Hospital Southampton, Southampton General Hospital, Cardiothoracic Surgery, Tremona Rd, Southampton, Hampshire SO16 6YD, United Kingdom (E-mail: cliffbarlow@hotmail.com).

J Thorac Cardiovasc Surg 2018;156:1867-8

0022-5223/\$36.00

Crown Copyright © 2018 Published by Elsevier Inc. on behalf of The American Association for Thoracic Surgery

<https://doi.org/10.1016/j.jtcvs.2018.07.012>

It is now well established that mitral valve repair is superior to replacement for degenerative mitral regurgitation. Although the initial description of repair techniques by Carpentier¹ mostly involved leaflet resection, ongoing modifications have increasingly suggested “respecting” leaflet tissue as far as possible.

The provocative article by Dreyfus and colleagues² in this edition of the *Journal* is both timely and considered. They focus on the primary goals of all repairs and emphasize freedom from tension, a smooth surface of leaflet coaptation, and the role of annuloplasty. The article challenges the perception that “resect” and “respect” are somehow in conflict.³ Although Dreyfus and colleagues² acknowledge that excessive resection has undesirable consequences, including annular disruption and potential for tension, they consider the current vogue of “respecting” the entire posterior mitral leaflet an oversimplification aimed at reducing learning curves and possibly to allow for minimal access.

In the somewhat unusually structured article, Dreyfus and colleagues² clearly illustrate the repair maneuvers used. They meticulously but logically describe two broad techniques for reducing leaflet height, whether at the free edge or annulus, according to leaflet pathology. Similarly, they describe how to assess and resect excessive leaflet width to achieve a smooth surface of coaptation. They emphasize the role that the patient’s native chords can play and provide the results for their long-term durability. Dreyfus and colleagues² argue that the annuloplasty ring is primarily to support the repair and caution against “downsizing” to disguise a mediocre repair.

Among limitations of this retrospective study² of two cohorts of patients by Dreyfus and colleagues² is that there is no control group. As a single-surgeon experience, it may not be generalizable elsewhere. It outlines the number of patients undergoing particular repair maneuvers. Because individual patients may undergo 3 or 4 separate maneuvers, however, they are unable to identify which may have poorer

Syed A. Sadeque, MBBS, FRCS (left), and Clifford W. Barlow, FRCS, DPhil (right).

Central Message

Avoiding resection in mitral valve repair is oversimplification. A strategy of “respecting” as far as possible but resecting when necessary achieves tension-free repairs with outstanding outcomes.

See Article page 1856.

outcomes. There is still much for the reader to learn. Clinical and echocardiographic outcomes are outstanding out to 12 years. Importantly, no patients developed systolic anterior motion, which Dreyfus and colleagues² believe to be mainly a consequence of resecting excessive leaflet height.

The continuum of degenerative mitral valve disease, from a prolapsed segment with no excess tissue to a Barlow type valve with a global excess, is apparent in the operating room. Clearly, some lesions can be treated entirely by “respecting” the leaflets, but a study such as that of Dreyfus and colleagues,² which clearly identifies and describes repair maneuvers for particular lesions of height, width, and prolapse, is most contributory. In addition, Dreyfus and colleagues² comment on the evolution of mitral repair and emphasize the particular contributions of Perier and colleagues,^{3,4} who arguably are champions of “respect” over “resect.” Nevertheless, Dreyfus and colleagues² and Perier and colleagues^{3,4} probably have more in common in their approaches than superficial consideration suggests. For example, in this series Dreyfus and colleagues² undertook no resection in 18% of cases, whereas Perier and colleagues³ resected excessive width in as many as 35% of patients. They differ more in their view on leaflet height, with Perier and colleagues³ favoring “pulling down” an excessively high leaflet and Dreyfus and colleagues² preferring resection techniques to avoid

restricting leaflet motion. Ultimately, although others have also pointed out that “resect” and “respect” each have a role,⁵ it through a logical, evidence-based approach that we can achieve excellent, durable repairs.

When buying clothes, occasionally “one size fits all,” but an oversized, baggy jacket needs to be tailored to fit the individual. Similarly, we should tailor the operation to the patient and not the patient to the operation. Dreyfus and colleagues² describe multiple mitral repair maneuvers because one strategy, whether “resect” or “respect,” does not fit all. The best option may be to “respect when you can, resect when you should.”

References

1. Carpentier A. Cardiac valve surgery: the “French Correction” *J Thorac Cardiovasc Surg.* 1983;86:323-37.
2. Dreyfus GD, Dulguerov F, Marcacci C, Haley SR, Gkouma A, Dommere C, et al. “Respect when you can, resect when you should”: a realistic approach to posterior leaflet mitral valve repair. *J Thorac Cardiovascular Surg.* 2018; 156:1856-66.
3. Perier P, Hohenberger W, Lakew F, Batz G, Urbanski P, Zacher M, et al. Toward a new paradigm for the reconstruction of posterior leaflet prolapse: midterm results of the “respect rather than resect” approach. *Ann Thorac Surg.* 2008;86:718-25; discussion 718-25.
4. Perier P, Hohenberger W, Lakew F, Diegeler A. Prolapse of the posterior leaflet: resect or respect. *Ann Cardiothorac Surg.* 2015;4:273-7.
5. Antunes MJ. Isolated posterior mitral leaflet prolapse: resect, respect, or resect with respect? *J Thorac Cardiovasc Surg.* 2018;155:129-30.