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

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

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 Carpentier mostly involved leaflet resection, ongoing modifications have increasingly suggested “respecting” leaflet tissue as far as possible.

The provocative article by Dreyfus and colleagues 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. Although Dreyfus and colleagues 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 colleagues 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 colleagues 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 study of two cohorts of patients by Dreyfus and colleagues 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 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 colleagues 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, which clearly identifies and describes repair maneuvers for particular lesions of height, width, and prolapse, is most contributory. In addition, Dreyfus and colleagues comment on the evolution of mitral repair and emphasize the particular contributions of Perier and colleagues, who arguably are champions of “respect” over “resect.” Nevertheless, Dreyfus and colleagues and Perier and colleagues probably have more in common in their approaches than superficial consideration suggests. For example, in this series Dreyfus and colleagues undertook no resection in 18% of cases, whereas Perier and colleagues resected excessive width in as many as 35% of patients. They differ more in their view on leaflet height, with Perier and colleagues favoring “pulling down” an excessively high leaflet and Dreyfus and colleagues preferring resection techniques to avoid...
restricting leaflet motion. Ultimately, although others have also pointed out that “resect” and “respect” each have a role, 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 colleagues 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