thickness of the prolapsing posterior leaflet.³ I believe that prolapse of the posterior leaflet in patients with fibroelastic deficiency is best treated by creating new chords with expanded polytetrafluoroethylene sutures, because the leaflets are often small, and every segment should be preserved. Prolapse of the posterior leaflet in patients with advanced myxomatous degeneration is probably best treated by some type of resection. Large, thick, and voluminous posterior leaflets are probably best managed by resection, which is best performed by detaching the leaflet from the annulus, severing the secondary chordae tendineae attached to its ventricular surface, and shortening the height by trimming its base and reattaching it to the annulus. The false commissures may have to be partially closed after this type of resection, and new chords are still necessary to correct the prolapse.

The most common types of posterior leaflet prolapse are in between these extremes, however, and both resection and chordal replacement work equally well. For these cases, I now prefer chordal replacement over resection, because it has been our experience that if the repair fails in the future, re-repair is more likely to be feasible if the posterior leaflet was left intact at the initial operation.

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Commentary: More insights into the resect versus respect debate: Will we ever have a winner?

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Surgery for mitral valve regurgitation is the only treatment that improves clinical symptoms, prevents heart failure, and has a beneficial effect on survival.¹ In degenerative mitral valve disease, various techniques can be applied to restore valve competence, with nearly all involving stabilization of the annulus.² Prolapsing leaflets are mainly corrected by different resection techniques with or without

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CENTRAL MESSAGE

In the absence of randomized evidence, more data are needed to declare a winner of the “resect versus respect” debate.

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implantation of neochords (“resect”) or by the use of neochords alone (“respect”). It remains speculative whether one or the other technique is superior with regard to durability and preserving mitral-ventricular continuity. In the absence of randomized trials, large retrospective series represent the best available evidence.

Van Wijngaarden and colleagues³ compared “resect” and “respect” techniques with regard to the echocardiographic parameter of left ventricular global longitudinal strain (LV-GLS) for assessment of LV function. Both techniques were able to preserve postoperative LV

function, without any statistically significant differences between groups.

A successful mitral valve repair can be characterized in different ways: (1) by intraoperative/postoperative echocardiographic mitral valve parameters, eg, absence of residual mitral regurgitation, length of leaflet coaptation, large orifice area, low transmitral pressure gradient; (2) by long-term echocardiographic parameters of left ventricular function, eg, left ventricular ejection fraction, LV-GLS, volume diameter; and (3) by clinical outcome: clinical symptoms, morbidity, and mortality.

Of these, the latter is the most important from a patient perspective. One of the weaknesses of the study by van Wijngaarden and colleagues is the lack of these clinical outcomes data.

The way to achieve successful mitral valve repair may be manifold, as pathologies and surgeon preferences are numerous. Indeed, van Wijngaarden and associates used a variety of techniques, including triangular/quadrangular resection with or without annulus plication and sliding plasty, as well as chordal replacement. Therefore, their study was not simply “resect” versus “respect,” but a combination of these approaches. There is some evidence that less alteration of the mitral valve geometry may be advantageous. Limited (triangular) resections and/or chordal replacement may be preferable to sliding plasty, annular plication, and quadrangular resection, which might not lead to optimal mitral valve repair parameters.

We previously demonstrated that the “respect” technique was associated with longer length of leaflet coaptation, lower transvalvular gradients, and larger ring sizes compared with “resect,” but those findings were not associated with early improved clinical outcomes.⁴ In a longer-term study, we also demonstrated improved long-term survival in “respect” patients, but the mechanism behind this improved survival was unclear.⁵ This underscores the importance not only of following patients over longer observation periods, but also of looking at a variety of postoperative parameters that may add mechanistic insights or serve as markers of improved long-term outcomes.

LV ejection fraction is one of these postoperative parameters, but because of its shortcoming of being load-dependent, LV-GLS has been introduced as another method of assessing LV function. Although LV-GLS measurement is associated with a significant learning curve,⁶ it may add important information on LV function, especially in asymptomatic patients⁷ and in synergy with other parameters.⁸ The use of other potential surrogates of long-term clinical outcomes that require further investigation include biomarkers, LV volume measurements, and modern imaging tools (eg, myocardial fibrosis in magnetic resonance imaging).

We should continue to strive to find the optimal repair strategy for mitral valve prolapse. In the absence of randomized evidence, more clinical outcome data and better markers with mechanistic links to clinical outcomes are needed before we can declare a winner of the “resect versus respect” debate.

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