

Recurrence of Mitral Valve Regurgitation After Mitral Valve Repair in Degenerative Valve Disease

To the Editor:

In their study, Flameng et al¹ raised a word of caution in early repair for patients with moderate mitral regurgitation. The authors provide unquestionable echocardiographic data showing that mitral repair is not consistently stable over time.

First, this series represents a single surgeon's experience of patients operated on over an extended period of time, although this information is not provided in the article. Similarly, median follow-up is not provided and would have been much appreciated for interpretation of the Kaplan-Meier curves.

In their Kaplan-Meier analysis, the authors gave dual information, as follows: first, they analyzed patients with grade II, III, and IV mitral regurgitation (MR) and compared them with patients who had grade I MR or no MR. Secondly, they performed similar analyses for patients with grade III and IV MR and compared them with patients who had grade I or II MR or no MR.

When analyzing for predictors of recurrence, the authors differentiate patients with severe mitral regurgitation (grade III or IV) from the remaining patients, leading to different numbers of patients (28 versus 214 patients). Analysis of groups differentiating moderate to severe (grade II, III, or IV) from absent to mild (grade 0 or I) would have resulted in similar numbers of patients in each group, giving more power to the statistical analysis, and might have brought up other predictive factors of recurrence.

Finally, they analyzed two subgroups according to the presence of "surgical risk factors." Even without surgical risk factor, the yearly recurrence rate of MR greater than grade II was 2.5%. The latter group included bileaflet disease patients, an established risk factor for recurrence. Those should have been included in the first subgroup. The results of such analysis might have somewhat modified the authors' note of caution on repair durability.

This study did not focus on the influence of the year of surgery, although we know from the Mayo Clinic group² that within a decade, the yearly rate of reoperation dropped from 2.5% to 1% for bileaflet lesions and from 1% to 0.5% for posterior leaflet lesions. Introducing new surgical techniques and abandoning older ones, such as chordal shortening, significantly improved the durability of anterior leaflet repairs.

When discussing the appropriateness of early surgical repair, we believe that the authors should take into account the increased yearly attrition rate of asymptomatic patients with moderate MR treated medically, as clearly demonstrated by Ling et al.³

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Response

We thank Dr. Poncelet for his comments on our paper.¹ The patients were operated on between July 1989 and December 2000, with increasing numbers of patients in more recent years. The median follow-up was 2.4 years (range 0.1 to 9.6).

The Kaplan-Meier analysis was indeed 2-fold, with recurrence of mitral regurgitation (MR) >2+ and >1+, respectively as event. The rate of recurrence of MR >1+ was 8.3% per year, and 3.7% when >2+ was considered, and with all patients operated on for degenerative MR included. The rate of reoperation was <4% in 5 years, which is comparable to other published series.

We have looked for predictors of recurrence of MR >2+, because we considered this as clinically significant. We also found that bileaflet disease patients have a higher risk of recurrence and reported it in the Results section. In the predictor "surgical risk factors," we have grouped surgical techniques that apparently influence the success rate of the repair. Because the surgeon has no impact on the preoperative pathology, bileaflet disease was not included in these surgical risk factors. The year of surgery is correlated with the techniques used. Therefore, we did not look at the year of surgery but to the surgical techniques themselves as predictors for recurrence. Also in our analysis, anterior leaflet repair with artificial chordae or chordal transfer is no predictor for recurrence, and thus it was not included in the surgical risk factors.

We do not want to discourage surgeons from performing a mitral valve repair for severe MR, even in asymptomatic patients. But the recurrence rate of MR, even when not necessarily leading to reoperation in the first decade, should be considered and discussed with the patient. However, when operations in asymptomatic patients with moderate MR are proposed, a word of caution is appropriate, because the study population of Ling et al² from the Mayo Clinics included patients with flail leaflets and ensuing, mostly severe MR. Generalizing the conclusions of this study to patients with moderate MR and to patients with other degenerative pathologies of the mitral valve seems inappropriate. Early surgery in the definition of Ling et al² does not mean surgery for moderate MR of all etiologies.

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