Recurrent of Mitral Valve Regurgitation After Mitral Valve Repair

To the Editor:

Flameng and colleagues \(^1\) are to be congratulated on an excellent observational study of the long-term course after mitral valve repair. This type of data is badly needed. The report could have been improved, however, with less emphasis on statistics and more on the actual data. It would have been helpful to have the data on recurrence rates for the subgroups that were mentioned, even though these did not reach statistical significance. In all subgroups, the numbers may not be enough to satisfy statistical criteria, but the potential strength of effect can be gauged, and these may be important areas for future research. The lack of statistical power will be taken into account by the reader, although it is correct for the authors to point this out. This is particularly so for the subgroups involving coronary artery bypass grafting (surprising that these did not differ), Barlow disease, and those with “surgical risk factors,” for whom a single table would have sufficed.

It is important to distinguish between clinically important and statistically important in scientific publications, and these are all too often confused. The inclusion of just the probability value in some parts of this paper weakens an otherwise excellent piece of research and adds to this confusion.

Saul G. Myerson, MD, MCRP

Oxford University Department of Cardiovascular Medicine
John Radcliffe Hospital
Oxford, United Kingdom
saul.myerson@cardiov.ox.ac.uk

Response

It is a relief to hear that distinguished clinicians and scientists such as Dr Myerson ask for hard patient data and not only sophisticated statistics and probability values. We are glad to provide some of these data.

Kaplan-Meier estimates presenting freedom of mitral regurgitation (MR) >2+ postrepair show a difference in recurrence rate between patients with and patients without Barlow disease, although statistical significance was not reached (P = 0.06). After 5 years, 69.0% (SE 11.6%) were free from MR >2+ in patients with Barlow disease versus 87.6% (SE 3.2%) in patients with other degenerative diseases. When linear regressions were calculated on Kaplan-Meier curves limited from 1 month to 7 years, it was found that Barlow disease can be equally well repaired as other degenerative diseases (freedom from MR >2+ is 98.1% versus 98.0% and of MR >1+ is 95.1 versus 95.9% early) but that the recurrence rate of MR >2+ is 3 times higher (7.2% versus 2.6% per year) and of MR >1+ is 2 times higher (14.0% versus 7.6% per year) in Barlow disease.

The fact that the combination with coronary artery bypass grafting has less influence on the recurrence rate of MR is not surprising because this study only included patients with degenerative MR. Patients having ischemic MR were excluded, leaving only patients with minor coronary artery disease in this subgroup.

As stated in the Table in our paper, \(^1\) patients with “surgical risk factors” (ie, no prosthetic annulus, no sliding plasty for posterior annular reduction, or chordal shortening) had a recurrence rate of MR >2+ of 5.9% per year, compared with 2.5% in patients without these surgical risk factors.

Other predictors of recurrence of MR after mitral valve repair might have been missed in our study as a result of an insufficient number of patients in specific subgroups. From our study, we can conclude that proper surgical technique is important and that even after initially successful mitral valve repair, a progressive recurrence of MR is seen, probably because of continuing valve degeneration. Barlow disease but also other factors might turn out to be important predictors for successful long term-mitral valve repair in future large-scale studies.

Willem Flameng, MD, PhD
Paul Herijgers, MD, PhD
Department of Cardiac Surgery
Katholieke Universiteit Leuven
Leuven, Belgium

Kris Bogaerts, MSc
Biostatistical Center
Katholieke Universiteit Leuven
Leuven, Belgium

