Guideline evolution: Follow the data, update frequently, provide optimal evidence-based surgical therapy

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Ischemic mitral regurgitation (IMR) is a common clinical problem that requires judgment about whether to treat with a mitral valve replacement/repair or coronary artery bypass grafting (CABG) alone. The American Association of Thoracic Surgery (AATS) published a Consensus Guideline on Ischemic Mitral Valve Regurgitation in 2015 largely based on a randomized clinical trial with 1-year follow-up.¹ The trial now has 2-year follow-up of these patients.² The alarming fact that nearly half of the survivors developed recurrent mitral regurgitation in the repair group and had more episodes of heart failure and cardiovascular-related hospitalizations has stimulated the guideline writing committee to update the previous guideline.³

As clinicians seek evidence-based data to inform us in our daily decisions, we need to recognize the strengths and weaknesses of guideline documents. These documents are a snapshot in time. They are limited by the completed trials and the quality of published studies. We highly value the randomized clinical trials (RCT). They have strict entry criteria and eliminate bias through the randomization process. However, because there is bias in entry into the trial, clinicians struggle with extrapolation of the trial results to a larger patient population.

As we see in this guideline update, the longer follow-up of trial patients can lead to new insights and interpretation. Finally, the bias of expert “opinion” cannot be eliminated when a writing committee votes and produces a final document. These realities must be understood by clinicians as we make recommendations for individual patients under our care. This timely update is a credit to the authors and the AATS to ensure the document reflects current data.

Traditionally we have had a strong bias that mitral valve repair had a survival advantage over mitral replacement. However, the efficacy data from the severe IMR trial has demonstrated the high recurrence of mitral regurgitation within 2 years, especially in patients with a basal aneurysm or dyskinesis, significant tethering, and/or severe left ventricular dilation (end diastolic dimension >6.5 cm). The new guideline language states that it “is

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Central Message

Guidelines require periodic updates to remain relevant. New data in the second year of follow-up of the RCT of patients undergoing CABG for IMR has led to this update of the 2015 Guidelines for IMR.

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reasonable” to replace mitral valve in these patients with a class of recommendation (COR): IIa, level of evidence (LOE): B. For patients without these findings, mitral valve repair “may be considered” (COR: IIB; LOE: B).

In the patients with moderate IMR undergoing CABG, the trial demonstrated that patients with CABG alone were doing as well as those with CABG with mitral repair with an undersized complete annuloplasty ring. The guideline now states that in moderate IMR, patients with mitral valve repair “may be considered” with an undersized complete annuloplasty ring (COR IIB, LOE B) instead of “should undergo” concomitant mitral valve repair (COR IIB, LOE A).

Finally, it is important to emphasize that the outcomes are specific to technical details. The annuloplasty should be with a rigid complete ring to achieve optimal results (COR II A, LOE B). The mitral replacement technique requires preservation of both anterior and posterior chords (COR I, LOE B).

Guidelines will continue to evolve. The RCTs of severe and moderate IMR have had an important impact leading to these new guidelines.

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