

VALVULAR DISEASE

Mitral valve repair and replacement compared

Over the past 5 years, mitral valve repair has been a far more popular choice of treatment than mitral valve replacement for patients with severe ischaemic mitral regurgitation. This trend exists despite a lack of conclusive evidence for the superiority of one strategy over the other, and despite guidelines not specifying which of the two strategies should be chosen for these patients. The findings of a new randomized, controlled trial comparing mitral valve replacement with repair in patients with severe ischaemic mitral regurgitation were presented at the 2013 AHA Scientific Sessions and published in the *New England Journal of Medicine*. The trial investigators concluded that “mitral valve replacement provides a considerably more durable correction of mitral regurgitation [than mitral valve repair], which may have an important effect on long-term outcomes”. They caution, however, that this finding “must be weighed against and potential adverse consequences of a prosthetic valve” and that “further patient follow-up is needed to confirm the findings of [their] trial”.

In total, 251 adults with coronary artery disease and severe ischaemic mitral regurgitation were randomly assigned to undergo either replacement or repair of the mitral valve. All participants received guideline-directed medical therapy as well as cardiac resynchronization therapy.

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At 12 months, the mean left ventricular end systolic volume index—the primary end point of the study—was similar for the two study groups. Of the secondary end points—death, major adverse cardiac or cerebrovascular events, quality of life, recurrence of mitral regurgitation, rehospitalization, and serious adverse events—only the rate of recurrent mitral regurgitation differed between the two groups at 12 months. In line with previous clinical studies, which were retrospective and observational in nature, mitral valve replacement was

associated with a lower rate of recurrent mitral regurgitation than valve repair (2.3% versus 32.6%, $P < 0.001$). The investigators comment that, in the repair group, “this lack of durability in correction of mitral regurgitation is disconcerting, given its reported association with further progression and long-term negative outcomes”. Follow-up of the trial participants will continue to 24 months.

Notably, the trial findings contrast with those of the previous, retrospective studies comparing mitral valve replacement with repair—previous studies have suggested that repair is associated with more-improved left ventricular function, and lower perioperative and long-term mortality. The investigators suggest that “the evolution of valve replacement with chordal sparing may account for the improved results”.

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