Commentary: Does untreated associated moderate aortic regurgitation have no impact on long-term outcomes if major lesion is fixed?

Junjiro Kobayashi, MD, PhD,

In the current issue of the Journal, Ward and colleagues¹ publish an interesting study on aortic regurgitation (AR) after cardiac surgery. The authors report 10-year clinical results after cardiac surgery (coronary artery bypass grafting [CABG], mitral valve, or aortic aneurysm surgery without aortic stenosis) in 138 patients with moderate AR among 3289 patients. Treatment of moderate AR added minimal risk, but many patients do not need concomitant aortic valve surgery and rarely progressed to AR. The authors clarified the fate of treated and untreated moderate AR after cardiac surgery for the first time.

The impact of this article is that untreated moderate AR was improved in 58% of the patients, and only 1% of the patients had progressed to severe AR in 10 years. The authors stratified patients with moderate AR according to anatomic leaflet abnormalities, such as bicuspid aortic valve (BAV), rheumatic valve disease, and calcification. They repaired BAV and replaced aortic valves for rheumatic disease and calcification. The mechanism of improved AR after operation is not delineated. Aneurysmal repair of the ascending aorta including ST junction plication with artificial graft improves AR, but only 14% of patients in the untreated group underwent aneurysm repair. The authors hypothesized that a postoperative decrease in left ventricular size and blood pressure control contributed to early AR reduction.

The authors performed combined aortic valve replacement (AVR) in 28 patients. Only a few patients developed AR in the untreated group. AVR is generally recommended in patients with moderate AR who undergo cardiac surgery; however, progression of moderate AR to severe AR was very slow in patients without aortic dilatation (1.4%/year for severe AR and 0.3%/year for AVR).² Late adverse events occur after AVR. Anticoagulation-related complications (eg, major bleeding, thromboembolism) and prosthetic valve endocarditis are ominous. Therefore, overindication of AVR for moderate AR even for rheumatic disease and calcification is concerned. The indication of AVR for associated moderate AR was further limited for these patients as transcatheter AVR for AR became realistic.³ Isolated off-pump coronary artery bypass grafting is also possible in patients with high-risk comorbidities for cardiopulmonary bypass and moderate AR.⁴

References