The art of repair

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Mitral valve (MV) repair is the gold standard treatment for patients with degenerative MV disease. Compared with replacement, MV repair provides better postoperative outcomes and long-term survival, restores the normal life expectancy and quality of life, preserves the left ventricular function, and reduces the rate of endocarditis and thromboembolic events.1,2 Inspired by mitral experience, reconstructive methods have been developed to treat aortic insufficiency, based on sparing or repairing the native aortic valve, while replacing or stabilizing the other components of the aortic root.3 Although little evidence is available on its long-term outcomes, the aortic valve-sparing procedure reports excellent early and midterm results and carries obvious advantages for young patients because it avoids the need for a mechanical valve conduit and the potential complications associated with lifetime anticoagulation.3,4 David and colleagues5 have recently confirmed these results up to 20 years of follow-up. Nevertheless, no study has reported the outcomes on the combination of both surgical valve repair techniques. In this issue of the Journal, Javadikasgari and colleagues6 report their 30-year experience of 118 patients undergoing concomitant aortic root and MV surgery. Specifically, aortic replacement and the valve-sparing procedure were performed in 64% and 36% of patients, respectively, whereas the rate of MV repair was 78%. Of note, the combination of valve-preserving root reimplantation and MV repair increased up to 50% in the last 10 years. The results are outstanding and come from a well-recognized cardiothoracic center. In-hospital mortality was 1.7%, and at 10 years, survival and freedom from reoperation were 86% and 92%, respectively. In this case series, Javadikasgari and colleagues6 add further evidence that the coexistence of degenerative aortic root aneurysm and degenerative MV disease is not rare; a proportion of patients presenting with aortic root aneurysm or MV regurgitation may have a combined disease, particularly in the presence of connective tissue disorders. Furthermore, this association is expected to increase, because the preoperative assessment is now more accurate to obtain good surgical planning, especially in the setting of a minimally invasive approach. Nevertheless, this article presents some points that deserve discussion. First, concerns exist about the indication of MV surgery in a small number of patients with a grade of mitral regurgitation less than 3+ (15 patients, 13%). The authors state that these patients had signs of advanced findings, including redundant leaflet tissue and a dilated annulus, that justified the MV procedure. However, current guidelines do not recommend MV surgery when the grade of regurgitation is less than moderate in patients undergoing other cardiac surgery.7 In this regard, the operative risk may increase, and to date no data are reported regarding the evolution of less than moderate mitral regurgitation after aortic root surgery. Second, in a teaching hospital, the key of success for heart surgery is the standardization of certain cardiac procedures. In the present report, mitral and aortic procedures were frequently performed with the collaboration of 2 skilled surgeons, 1 with special expertise in the management of aortic root pathology and 1 with extensive experience in MV repair. These data raise some doubts regarding the reproducibility of this complex operation, and a prospective, multi-institutional study is required for an answer. Certainly, this is a procedure that should not be done in low-volume institutions on an episodic basis. A distinct learning curve is required.

Finally, the median follow-up for survival and reoperation was only 5 years. At 10 years, only 8 patients...
(19.5%) were at risk. Therefore, a larger sample size and a more complete follow-up are necessary to confirm their conclusions.

Javadikasgari and colleagues\(^6\) have reported excellent outcomes in combined aortic root and MV surgery, highlighting the importance of preserving both valves. Valve repair may confer a low operative risk, avoid anticoagulation, and restore normal life expectancy and quality of life.

References


