In the ‘How-to-do’ paper by Nezic et al. [1], the authors present a simple technique for mitral valve replacement when the posterior mitral annulus is heavily calcified, involving the posterior left ventricular myocardium. The technique aims to resolve a truly challenging surgical problem. Only the drawback of the calcification of the anterior mitral leaflet (AML) was noted. I successfully adopted this technique to perform a mitral valve replacement on a 74-year-old man with aortic bioprosthetic failure and calcified mitral valve stenosis. The operation was performed with a minor modification that further simplifies the proposed technique. Briefly, the AML was removed from its insertion and brought posteriorly. It was first sewed by two 4/0 polypropylene sutures starting bilaterally where the AML crossed the mitral annulus out of its calcification area. The two running sutures were also brought up to the left atrial posterior wall, avoiding the placement of any sutures on the ventricular posterior wall (personal modification). At the time of bioprosthesis insertion, a 2/0 pledgetted subannular mattress stitch was passed bilaterally through the posterior annulus, overriding the AML where it crossed, then to the prosthetic sewing ring. The remaining ‘posterior’ stitches were passed only through the transposed AML in a kind of ‘subannular’ fashion, without securing them to the calcified area of the posterior left ventricular wall (personal modification), avoiding the need for partial decalcification. Finally, the bioprosthesis was secured to the anterior annulus in the usual manner. Both the postoperative and 3-month follow-up echocardiography revealed the regular function of the bioprosthesis. Neither perivalvular leakages nor rocking mobility of the bioprosthesis ring, which appeared well fixed in the proper position, was detected. The patient is still in good clinical condition 6 months after the operation. In conclusion, I had a satisfactory surgical experience with the suggested technique, and therefore I recommend its use whenever indicated.

REFERENCE


Reply to Da Col

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We are grateful to Da Col [1] for his interest in, and comments about, our work [2], but we believe that there are several weak points in his modification of our technique, which we would like to be considered.

(i) Preservation of the native chordopapillary apparatus during mitral valve replacement, along with the maintenance of the continuity between these structures and the mitral annulus, results in improved postoperative left ventricular performances [2]. This continuity is preserved even with the transposition of the anterior mitral leaflet (AML) to the posterior mitral annulus [3]. However, we are afraid that this continuity is disrupted when AML is fixed to the left atrial wall, using Da Col’s technique. Furthermore, although a ‘new annulus’-transferred AML, is attached only to the left atrial wall (except for two lateral spots anchored to the posterior annulus in the region without calcifications), it may lead to its dehiscence, the development of a paravalvular leakage or eventual atrial wall rupture, due to the transfer of high left ventricular pressure into the left atrium [4, 5].

(ii) Interrupted 2-0 polyester pledgeted mattress sutures passing through the posterior mitral leaflet, skipping over and excluding the severely calcified posterior mitral valve annulus (similar to Da Col’s technique in which those sutures were passed through the AML attached to the left atrial wall) were used by Di Stefano et al. [5], thus enabling an intravalvular placement of the prosthetic valve. We anticipated possible problems with tying down the bioprosthesis because the stent post of the bioprosthesis, which protrudes into the ventricular side, may interrupt the insertion of the bioprosthesis through contact with the severely calcified posterior mitral annulus or sub-prosthetic calcified tissue. Using techniques that leave massive posterior annular calcifications intact, we also occasionally find it impracticable to implant an appropriate-sized mitral prosthetic valve [2].

(iii) Any possible calcium fragments that can be disengaged during the implantation of the prosthetic mitral valve in such circumstances, or later with myocardial contraction, are possible origins of emboli using Da Col’s technique when they stay entrapped between the AML and the partially decalciﬁed posterior mitral annular bed in our patients [2].

Due to all the aforementioned remarks, we are still not too optimistic about the future of Da Col’s technique.

REFERENCES