

Evidences to Make the Right Decision in a Complex Scenario: Mitral Regurgitation Associated with Severe Aortic Stenosis

Evidencias para poder tomar la decisión correcta en un escenario cada vez más complejo: Insuficiencia mitral asociada a estenosis aórtica severa

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Severe aortic valve stenosis is a highly prevalent problem in our setting. (1) However, in many instances it is not an isolated situation but can be accompanied by other heart valve diseases, especially mitral regurgitation. (2) In fact, since the most frequent cause of aortic valve stenosis is of degenerative etiology, (1) it is logical to assume that the rest of the heart valves are subjected to the same process. Thus, degenerative aortic valve is frequently associated with degenerative mitral valve, with the subsequent regurgitation it may produce. Moreover, left ventricular remodeling and the alterations in its chamber pressures secondary to severe aortic stenosis may be the consequence of functional mitral regurgitation. (3) However, once free from the cause of increased afterload, it bears no relation with the progression of organic mitral regurgitation to functional mitral regurgitation. This scenario becomes even more complex if we consider that both etiologies may coexist in the same patient.

The elegant work by Malio et al. (4), published in this issue of the Journal, tries to shed light on a field with ever growing options for treatment management. Firstly, in the case of a patient who will undergo surgical treatment, it is well known that the risk of isolated valve replacement is very inferior to that of double valve replacement. (5, 6) It is therefore vitally important to be able to predict the behavior of mitral regurgitation after solving the aortic problem to avoid an unnecessary increased risk for the patient. The decision-making tree becomes even more complicated if we take into account the emergence of new methods of treatment for the management of severe aortic stenosis. With the more extended use of percutaneous valve implantation, the critical decision is no longer the choice between single and double valve replacement; on the contrary, the decision becomes more crucial, since, if it is not necessary to treat the mitral valve, the percutaneous option may be posed as the best alternative. (7, 8)

In the work of Malio et al., (4) at the time of choosing patients and especially because it was a retrospective study, it could be assumed that there was an important selection bias and that those patients with more affected mitral valve could have been excluded for this type of intervention. Nothing farther from reality, since 67.5% of patients included in the analysis presented more than moderate mitral regurgitation, granting special validity to the results. The main results of the study show how 67.5% of patients undergoing surgery presented a reduction of at least one grade in the severity of the concomitant mitral regurgitation. In fact, Figure 2, which graphically summarizes the findings of the study, describes the reduction of 1 grade in the regurgitation severity of 40% of patients, two grades in 25% and 3 grades in 2.5% of cases, with no changes in 27.5% and worsening in only 5%.

Although the work is full of virtues, it would not be correct not to mention some limitations. It should be pointed out that it is a single center, retrospective study, using only one type of percutaneous prosthesis, and that there is no clear definition in Methods when mitral regurgitation was classified as functional, organic or mixed. Moreover and fully justified for ethical reasons, only very high surgical risk patients were included, so the question remains open as to what would happen in other clinical conditions. Another aspect to discuss is the assessment of the degree of mitral regurgitation severity. The present work employs the severity grading system recommended by the American Society of Echocardiography (9) which takes into account variables assessing anatomical severity (efficient regurgitation orifice and its related parameters) and other variables evaluating mitral regurgitation functional severity (regurgitant volume and regurgitant fraction). It would have been interesting to know if after aortic valve implantation mitral regurgitation improvement was based more on functional or anatomical parameters.

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To summarize, we may conclude that Malio et al.'s study is offering us the following advice: Take into account that more than two-thirds of patients undergoing percutaneous prosthesis implantation due to severe aortic stenosis evidence improvement in the degree of concomitant mitral regurgitation.

Finally, from my modest point of view, I would like to point out a paradoxical element of this study which should not minimize the impact of its results. The conclusion, which should generally be the answer to a question posed in the hypothesis of the work, is in itself another interrogation: Could the percutaneous implant of an aortic valve be the best solution for patients with aortic stenosis and mitral regurgitation? Malio et al. have opened an excellent pathway with their experience and they will undoubtedly be part of the scientific pillars that will help us make the best decision for this type of patients.

Conflicts of interest

None declared.

(See authors' conflicts of interest forms on the website/Supplementary material).

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