

Repair, Repair then Replace

Valvuloplastía, valvuloplastía y luego reemplazo

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Diseases of the mitral valve that lead to significant valve insufficiency in the pediatric population are quite variable, including: congenital anomalies of the valvular or subvalvular apparatus, acquired systemic illnesses, connective tissue disorders, and anomalies of the coronary arteries. We can all agree that the ideal surgical management of children with mitral valve regurgitation is valve repair. Better short and long-term survival has been reported in children undergoing mitral repair when compared to valve replacement. (1)

In this issue of this Journal, Sepúlveda and associates (2) report their experience with mitral valve repair in 65 pediatric patients with moderate to severe valve insufficiency ($MR \geq 2+$). The main purpose of this study was to elucidate risk factors leading to a mitral valve reoperation and/or recurrence of significant valve regurgitation. There was no operative mortality in this series, and with a mean follow-up of just over 2 years in 52 patients, there were 9 reoperations. On multivariate analysis they identified the following risk factors for poor outcome after mitral valve repair: rheumatic fever, mitral annulus diameter $\geq +5SD$ and immediate postoperative residual $MR \geq 2+$. Interestingly, neither patient weight or age proved to be important.

The findings in this publication are consistent with previous studies that have identified hemodynamically significant residual mitral valve regurgitation and rheumatic fever as risk factors for reoperation after mitral valvuloplasty. (3-5) Also, a severely dilated mitral annulus has been associated with the presence of significant mitral valve regurgitation (6), which likely reflects the severity of the underlying valve pathology. One of the characteristic changes observed with rheumatic heart disease is the development of mitral annular dilatation; therefore is not surprising that these two “risk factors” were noted in this study. The fact

that neither patient weight or age proved to be important factors for a poor outcome might just suggest that the underlying valve disease is what really determines the end result of a mitral valvuloplasty and not the size of the patient.

Sepúlveda and associates correctly conclude that mitral valvuloplasty is a safe and effective surgical technique for the management of mitral regurgitation in children. Not all diseased mitral valves can be repaired, but we should not shy away from trying.

Conflicts of interest

None declared.

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

REFERENCES

1. Baird CW, Myers PO, Marx G, del Nido PJ. Mitral valve operations at a high-volume pediatric heart center: Evolving techniques and improved survival with mitral valve repair versus replacement. *Ann Pediatric Card* 2012;5:13-20. <http://doi.org/gcb5vz>
2. Sepúlveda SE, Medina MJ, Martin A, Salgado G, Moreno G, Cornelis J, et al. Risk Factors of Unfavorable Outcome in Children with Mitral Valve Repair. *Rev Argent Cardiol* 2019;87:334-8.
3. Wood AE, Healy DG, Nolke L, Duff D, Oslizlok P, Walsh K. Mitral valve reconstruction in a pediatric population: Late clinical results and predictors of long-term outcomes. *J Thorac Cardiovascular Surg* 2005;130:66-73. <http://doi.org/bs45q2>
4. Hillman ND, Tani LY, Veasy LG, Lambert LL, Di Russo GB, Doty DB, et al. Current Status of Surgery for Rheumatic Carditis in Children. *Ann Thorac Surg* 2004;78:1403-8. <http://doi.org/db75>
5. Cruz RCC, Cordeiro BS, Santos FS, Fernandes CR, Gama JMA, Ladeia AMT. Predictors of Unfavourable Outcomes in Children and Adolescents Submitted to Surgical Mitral Valvuloplasty Secondary to Chronic Rheumatic Heart Disease. *Arq Bras Cardiol*. 2019. pii: S0066-782X2019005017102. <http://doi.org/db75>
6. Hayashi T, Inuzaka R, Shinzo T, Ono H, Kaneko Y, Kato H, et al. Clinical implications of mitral valve geometric alterations in children with dilated cardiomyopathy. *Cardiol Young* 2016;26:1365-72. <http://doi.org/f86mv4>

REV ARGENT CARDIOL 2019;87:333. <http://dx.doi.org/10.7775/rac.v87.i5.16433>

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