

Letters to the Editor

Surgical Treatment of Organic and Functional Tricuspid Valve Disease**Tratamiento quirúrgico de la valvulopatía tricuspídea orgánica y funcional****To the Editor,**

We have recently had the opportunity to read 2 excellent articles published in the *Revista Española de Cardiología* in which the tricuspid valve played the leading role. Rodríguez-Capitán et al.¹ reported a study involving 119 cases of tricuspid valve disease, 40% of them having organic etiology; that is, the causes were rheumatic lesions in which there was macroscopic damage to the annulus, leaflet, and/or subvalvular apparatus. Most of the lesions (73%) were repaired by means of anuloplasty using the De Vega technique.² The results in terms of mortality and complications were satisfactory, and age and cardiopulmonary bypass (CPB) time were repeatedly found to be predictors of death or residual tricuspid regurgitation. On the other hand, in their editorial González-Santos and Arnáiz-García³ published a very complete update on the management of patients with functional or organic tricuspid regurgitation. The summary of this review could be the affirmation that the approach to tricuspid regurgitation, even functional, in patients who require surgical treatment for left-sided valve disease should be aggressive, and that the indications for repair should include even mild or moderate tricuspid regurgitation. We only wish that such an elegant opinion had been accompanied by the authors' personal experience.

In general, the tricuspid valve has been treated like Cinderella. In a crude analysis of the worldwide scientific experience, using the database of the United States National Library of Medicine to search for the words *Aortic Valve*, *Mitral Valve*, and *Tricuspid Valve*, the number of articles that contain these terms in the title are 13 608 (44.8%), 14 134 (46.6%), and 2625 (8.6%), respectively. If we limit the search to the 21st century, the results vary, in part: 7736 (55.0%), 5238 (37.3%), and 1079 (7.7%). The variation in research on aortic and mitral valve disease can be explained by the changes in etiology and prevalence that have been taking place, but with respect to tricuspid valve disease, it does not appear to be easy to identify a clear cause. We should not forget that, in Spain, there is a longstanding tradition associated with the clinical and diagnostic study of tricuspid valve lesions, and the names Norberto González de Vega,² Jose Luis Martínez de Ubago, and Carlos Gómez-Durán are linked to the knowledge of the behavior and treatment of the tricuspid valve.

Recently, the journal *Cirugía Cardiovascular*, the official publication of the Spanish Society of Thoracic and Cardiovascular Surgery, paid a scientific tribute to the De Vega anuloplasty on its 40th anniversary, in the form of a monographic issue published in October 2012⁴ in collaboration with the *Revista Española de Cardiología*.

We who sign the present *Letter to the Editor* have had the chance to review the current status of tricuspid valve disease in terms of the clinical, echocardiographic, and surgical aspects. We confirm that the need to replace the tricuspid valve with a prosthesis is currently uncommon in our patient population. Approximately

95% of the individuals scheduled for surgery are candidates for valve repair, and only 5% require its replacement with a prosthesis.^{5–7} A brief comment to conclude: In the article by Rodríguez-Capitán et al.,¹ the CPB time appears repeatedly as a predictor not only of early mortality, but of overall mortality (early and late). In our experience⁸ investigating the predictors of both early and late risk following aortic valve replacement, the CPB time was identified repeatedly as a risk predictor, and its statistical behavior was competitive with that of cardiac ischemia time. This anomaly gave rise to the term *postclamping time* which, to put it simply, is the difference between the CPB time and the cardiac ischemia time, and would serve to estimate the possible difficulties associated with the termination of CPB. The greater the difficulty due to intraoperative bleeding or to low cardiac output or arrhythmias, the longer the time elapsed after aortic cross-clamping and the poorer the prognosis, not only for the early postoperative period, but over the long term as well, as a result of the possible sequelae associated with a problematic termination of CPB.

José M. Bernal^{a,*} and Carlos-A. Mestres^b

^a*Servicio de Cirugía Cardiovascular, Universidad de Cantabria, Santander, Cantabria, Spain*

^b*Servicio de Cirugía Cardiovascular, Hospital Clínico, Universidad de Barcelona, Barcelona, Spain*

*Corresponding author:

E-mail address: bernal@humv.es (J.M. Bernal).

Available online 25 October 2013

REFERENCES

- Rodríguez-Capitán J, Gómez-Doblas JJ, Fernández-López L, López Salguero R, Ruiz M, Leruite I, et al. Cirugía de la regurgitación tricuspídea grave: resultados a corto y largo plazo. *Rev Esp Cardiol.* 2013;66:629–35.
- de Vega NG. La anuloplastia selectiva, regulable y permanente. Una técnica original para el tratamiento de la insuficiencia tricúspide. *Rev Esp Cardiol.* 1972;25:555–6.
- González-Santos JM, Arnáiz-García ME. La corrección de la insuficiencia tricuspídea: una cuestión por resolver. *Rev Esp Cardiol.* 2013;66:609–12.
- Hornero F. Anuloplastia tricúspide de de Vega: hito quirúrgico con marca España. *Cir Cardiovasc.* 2012;19:347–8.
- Mestres CA, Fita G, Parra VM, Pomar JL, Bernal JM. Tricuspid valve surgery. *HSR Proc Intensive Care Cardiovasc Anesth.* 2012;4:261–7.
- Poveda JJ, Bernal JM, Matorras P, Hernando JP, Oliva MJ, Ochoteco A, et al. Tricuspid valve replacement in rheumatic disease: Preoperative predictors of hospital mortality. *J Heart Valve Dis.* 1996;5:26–30.
- Bernal JM, Pontón A, Díaz B, Llorca J, García I, Sarralde A, et al. Surgery for rheumatic tricuspid valve disease: A 30-year experience. *J Thorac Cardiovasc Surg.* 2008;136:476–81.
- Bernal JM, Lorca J, Prieto-Salceda D, Pulitani I, Ponton A, García I, Revuelta JM. Performance at 10 years of the CarboMedics Top-Hat valve. Postclamping time is a predictor of mortality. *Eur J Cardiothorac Surg.* 2006;29:144–9.

SEE RELATED ARTICLES:

<http://dx.doi.org/10.1016/j.rec.2013.02.002>

<http://dx.doi.org/10.1016/j.rec.2013.04.007>

<http://dx.doi.org/10.1016/j.rec.2013.08.006>