

## Percutaneous aortic valve replacement in patients with severe aortic stenosis and elevated surgical risk

### To the Editor

I have read the article published by Dr. Fernando Cura et al. (1) about percutaneous aortic valve replacement; really it is a satisfaction to know that the results of the technique in our country are similar to those in the series of centers with more experience of Europe, considering that the selected patients are elderly and with high incidence of comorbidities and it is the initial experience in the four centers. The high rate of postvalvuloplasty ring rupture, which is above the one observed in the series of valvuloplasty, calls the attention. I agree with the authors that it may be due to the choice of balloons of the same diameter of the ring and I agree that it is safer to choose balloons of less diameter.

Our experience in percutaneous aortic valve replacement at Hospital Italiano of Buenos Aires with 22 implantations gives similar results in terms of mortality, with a rate of need of permanent pacemaker implantation somewhat lower (26%), using the same via and approach technique of the authors with the exception of one case with transsubclavio approach with successful outcome.

I think these results show that it is a safe and effective technique, and the indications will be increasing with the appearance of new devices.

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## Study of ventricular function and its correlation with the morphometry in patients with symptomatic severe aortic stenosis

### To the Editor

The cardiovascular system is a complex adaptive system that involves from the genome, the proteome, the structure and cellular, tissue and organ function to the clinic. Hita et al. work has the virtue of integrating several of these categories: morphometry, echocardiographic and clinical assessment. (1)

Aortic stenosis surgery (AS) is defined by the appearance of symptoms or by the impairment of the left ventricle systolic function (LV), expressed by the decrease of the ejection fraction (EF). (2) However, symptoms are not easy to interpret, especially in

an elderly population and EF as well as shortening fraction are indexes of endocardial shortening which overestimate LV systolic function, mainly in presence of concentric hypertrophy, so they do not reflect myocardial function.

AS physiopathology is determined by the pressure overload and the increase of postload, with the consequent ischemia, subendocardial fibrosis and remodelling. (3) Hypertrophy not only means increase of the myocyte diameter, but also of collagen and interstitial fibrosis, that at first lead to a myocardial function deterioration and then chambers and LV pump function. (4, 5) This situation primarily affects subendocardial fibers responsible for the longitudinal function, which is not reflected in the global EF. The excursion of the mitral annulus, the tissue Doppler, the myocardial strain, as well as its strain rate, assess those longitudinal fibers and see subclinical alterations of myocardial function, as it can be appreciated in Hita et al. work. On the contrary, radial function is compensated for a long period. Finally, in advanced stages longitudinal and radial functions are altered, as it was demonstrated in patients with AS with low flow and low gradient. (6)

Hita et al. assess a population of symptomatic AS with EF and mesoparietal shortening fraction (SF) normal. The latter is attributable to that mesoparietal SF assesses radial function. However, the authors find in the morphometry an increase in the collagen volume and myocyte area. These alterations are correlated with the alterations in longitudinal myocardial function in parameters assessed thorough tissue Doppler. From a clinical view, this moment of AS natural evolution clinically characterized by symptoms, hemodynamically by preserved radial function and alteration of longitudinal function and in morphometry by increase of collagen volume and myocyte area, would correspond to the beginning of the systolic function deterioration. A surgical procedure would be adequate to solve the pressure overload, favour inverse remodelling and preserve LV systolic function. (7)

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## Better time for publication

### To the Editor

It is very encouraging to receive good news. I have read Dr. Raúl A. Borracci article, entitled "The growth of Argentine biomedical publications and a better time for research", (1) and besides congratulating the author, I would like to make some comments.

Publications were represented by a limited number of clinical trials, although there are a high number of ongoing studies. As it was already mentioned, most of them are promoted by the pharmaceutical industry and their design, implementation, analysis and interpretation are chargeable of large research groups in the northern hemisphere.

I agree in that "completing other's protocols does not mean doing research". Revising a hospital database, assessing with 120 patients if being a smoker is a risk predictor of unstable angina, with no methodological design and obtaining outcomes with no validity or possible generalization would not increase scientific publications.

The absence of our studies and the "other's" great studies offer opportunities to publish. My current experience made me understand the process "from the inside" and a good strategy is to propose and to lead a sub-study. Although this study is of observational nature, the great size of the sample would allow obtaining accurate estimates and the type of question and the design would determine the degree of bias. There is a variety of studies called "based on the researcher", that as they are not promoted by the industry, have a low economic reward; so, the possibility of creating a sub-study is what the creators of the idea propose. They are very interested in the interaction and exchange thus they need a rapid recruitment of patients.

Obviously, the possibility of a favourable answer will depend on the proposal of an interesting question and an adequate methodology. Industry studies offer the possibility, we have to try.

In summary, the interest in publishing and the ability to design a sub-study would be the variables independent of success, not only the recruitment of patients.

Finally, a more productive future will depend on the acquisition of an advanced training in methodology, the creation of cooperative networks, and the design of local prospective great scale studies.

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