

Mitral annulus contraction and the mechanics of the ascendant segment of the ventricular myocardial band

To the Editor:

I read with real pleasure, in the September issue of this journal, the special article by Torrent Guasp on the agonist-antagonist mechanics of the descendent and ascendant segments of the ventricular myocardial band¹ and the editorial on the topic² by my good friend Prof Zarco. I would like to make some comments.

In the first place, Dr Torrent Guasp modestly describes himself simply as a «physician» when, at the very least, he deserves the title of «medical thinker». It takes a great deal of imagination and talent to present myocardial function as originally and convincingly as he does.

As far as the claim that Dr Torrent was the first to report, in 1970,³ that the mitral annulus contracts, I am sorry to have to contradict him. Even though I recognize the many original ideas of Dr Torrent, contraction of the mitral annulus was detected by many of us «old surgeons» who performed closed commissurotomy in the 1950s, and was described in 1950 by Dr Smith et al,⁴ who estimated that the mitral area decreased in systole by 36%. We were inspired mainly by the experimental work of Tsakaris et al,⁵ who placed radiopaque markers in the mitral annulus and demonstrated that the area decreased as much as 40%. Based on this work, we designed a mitral annulus that changed shape between systole and diastole, precisely imitating the physiological movements of the mitral annulus. We called this annulus «Dynamic Annulus».⁶ Our annulus was less «stenosing» than rigid annuli, so we could use larger sizes (diastolic) than with rigid annuli (systolic). We have used it in almost 100 patients with excellent results. A company in Madrid manufactured the rings for us. The product did not reach the international market as a result of «commercial piracy», which we will not go into here.

Finally, the hypothesis of Dr Torrent seems coherent to us insofar as the idea that straightening the ascendant segment is due to active contraction of the myocardial muscle in the transition from systole to diastole. Dr Zarco, as a good cardiologist, finds it is difficult to accept that certain electrocardiographic concepts related to the T wave may have to be reviewed, which does not concern a surgeon like myself too much. Haven't we changed our ideas in relation to cardiac mechanics with the theories of Dr Torrent Guasp?

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