Commentary: Shall we stop looking for the lord of the ring?

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Ischemic functional mitral regurgitation (MR) is not a mitral valve disease; rather, it is a pathology of the left ventricle (LV). It is well established that if on the one hand we have morphologic functional modifications of the mitral annulus, such as septal lateral dilatation, reduced circumferential contraction, and reduced intercommissural folding, on the other, there is a significant increase of the tethering forces on the mitral valve leaflets, which show a restrictive motion.¹⁻⁴

As stated by Bothe and coworkers⁵ in their article in this issue of the *Journal*, even implanting a specifically designed ring cannot have any influence on either papillary muscle position or geometric remodeling of the LV chamber. In fact, even in the presence of improving LV overload, the fate of the LV is more likely determined by other factors, such as increased myocardial perfusion and modification in terms of myocardial tissue (entity of scar and viable myocardium).

In 2009, our group⁶ reported an experience with patients with ischemic MR, with the same nonspecific band used in all cases, showing good echocardiographic results not only in terms of MR recurrence and mitral valve modification but also with respect to LV remodeling. This result was due to the adoption of an echocardiographically based strategy with a consequent decisional algorithm in which we adopt in some case LV surgical reshaping, chordal cutting, and left atrial augmentation in addition to mitral valve annuloplasty.

The strength of this animal study by Bothe and coworkers⁵ is the demonstration that the effort to design and produce specifically designed rings probably goes in a wrong direction, because it is not based on pathophysiology but rather on a merely anatomic principle and is excessively focused on a single element of a problem that appears more complex, and for a complex problem there cannot be simple solutions. At the bottom line, this is the same conclusion of the Cardiothoracic Surgical Trials Network studies of surgical treatment of both moderate⁷ and severe⁸ ischemic MR.

The lord of the ring.

Central Message

Surgical treatment of ischemic functional MR addressing only the annulus is not the answer to a pathology more complex than generally thought. Maybe we should stop looking for the lord of the ring.

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These studies showed that annuloplasty alone was not enough to correct ischemic MR at 2 years in one-third of the cases⁷ and in two-thirds of the cases,⁸ respectively. Valvular (patch augmentation) or subvalvular surgery (second-order chordal cutting, repositioning of the papillary muscles) must be added to obtain a more stable result. Bothe and colleagues⁵ have demonstrated again, if it was necessary, that addressing only the annulus is not the proper answer to a pathology that is more complex than generally thought. So maybe we should stop looking for the lord of the ring.

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