Reviewer’s report

Title: The Extent of Papillary Muscle Approximation Affects Mortality and Durability of Mitral Valve Repair for Ischemic Mitral Regurgitation

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Reviewer: Lorenzo Menicanti

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this paper describes the experience on a group of 45 patients treated between 2003 and 2012 with mitral annular plasty and approximation of papillary muscles, the conclusion was "complete papillary muscles approximation could be associated with lower postoperative mortality and higher durability of mitral repair for ischemic mitral regurgitation."

I think the data published in this paper do not fully support this conclusion because this paper presents some important weakness:

The number of patients is low: 45 patients treated in 9 years.
The left ventricle anatomical situation is very different, there are 13 patients without an anterior scar, 9 that presented this scar but, probably because was not big enough, the Surgical Ventricular Restoration was not indicated, and 23 in which SVR was performed.
The diameters of left ventricle are not different in the three groups, that means because the ejection fraction is different that the volume of this group of patients are different.

To link the survival and mitral recurrence to the technique used: complete or incomplete papillary muscles approximation could be completely misleading if the volumes pre and post intervention are not fully analyzed because the differences in outcome can be determined only by the volume of LV.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

no conflict of interest