Reviewer's report

Title: A new shape for an old function: lasting effect of a physiologic surgical restoration of the left ventricle

Version: 1 Date: 15 September 2006

Reviewer: Pino FUNDARO'

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General
(Cirillo et al.)

Ventricular surgery begun in 1955 with the first aneurismectomy as a demolitive procedure and became reconstructive after 1985 with the first ventriculoplasties. Its main aim is to reconstruct a more efficient pump and to avoid the establishment of a vicious circle of further dilatative remodeling. However, refinements of the technique of LV rebuilding are currently investigated to obtain better and more durable ventricular performances.

This is a well-constructed and well-written report that addresses this problem: it concerns the clinical outcome and the morphological, geometric and functional changes of 12 consecutive patients who underwent anterior LV restoration and coronary revascularization.

The patients described (all without associated mitral procedures) were evaluated by serial echograms measuring 11 parameters preoperatively and at 3, 12 and 24 months after surgery. The data presented show convincingly that LV reconstruction with a small, narrow and oval patch (mean patch area 2.5 cm²) results in a more physiological rebuild (closer to normal volumes and shape) and in improved functional performances that are maintained up to 24 months postoperatively. Obviously, more patients with a longer follow-up are needed to confirm that this kind of surgery slows and/or prevents LV redilatation for a longer time.

Two aspects would be of great interest in the future:

a) A more detailed description of the criteria employed to localize the apex of the rebuilt ventricle, a crucial point in LV reconstruction;

b) The possibility to avoid the mitral valve repair in selected patients because the LV recontraction could correct the underlying mitral abnormality. These issues are very intriguing and fascinating, but clearcut criteria about applicability are lacking for now.

The readers would I suspect appreciate some more comments on these topics.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached) none

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct) none

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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